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THE SURGICAL TREATMENT OF CONICAL CORNEA.*

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Surgery in the treatment of conical cornea has a limited application. The various surgical measures which have from time to time been advised and practiced are justifiable only in certain progressive or confirmed expressions of this congenital deformity of the eye.

In the main, the purpose of surgical intervention concerns itself with attempts: 1. To arrest an inexorable advance of a deformed central area of the cornea by converting this region—in part or altogether—into an opaque scar or a series of cicatricial lines, thereby affording a more or less effectual check to an otherwise hopeless progression. 2. To effect a betterment of vision in confirmed cases which have been rendered helpless in consequence of hopelessly reduced sight, after all other methods of treatment, including every kind and combination of lenses, stenopaic appliances, etc., have been discarded as useless.

ARREST OF ADVANCING DEFORMITY.

In taking up the first proposition, it must at once be stated that this tendency to progression again, declares itself only in a limited number of cases of this class. For the latter alone it is justifiable to attempt through the aid of surgery to bring about an arrest of this progressive advance of a conical deformity of the cornea, which, since birth, or for many years, has been known to be present, but which throughout a longer antecedent period has remained stationary. What starts it, or whether it is due to inherent local or general causes, remains a mystery. Furthermore, it must be added that the deformed region of the cornea is not in the exact center, but rather involves the paracentral regions, and of these again, that just below the mathematical center. It is also observed that this progressive advance commonly begins between the twelfth and twenty-fourth year. It is so slow in some cases, and the aid which correcting lenses afford is not infrequently so satisfactory—particularly if successive changes are made as the needs for failing vision demand—that, for a longer or shorter period, this progression is either not recognized at all or is assigned to a not unnatural increase of the complicated error of refraction which is present. The fact that the refraction in most cases is myopic makes this oversight during the earlier stages of advance not only a possible, but a common one.

It is also not infrequently observed that, whilst this increase of conicity affects both eyes, it is almost invariably more rapid and destructive in one eye, and leads in this eye to complete suspension of function, whereas, in the fellow eye, progress is retarded, or may even be entirely arrested.

It is, indeed, then, an important, as well as a difficult, question to decide whether in cases in which the progression has unmistakably begun, but is not rapidly destructive to vision and the comfortable use of the eyes is not too seriously interfered with—whether in such cases it is at all justifiable to interfere during the early stages of advance, or whether surgical interference should be deferred until vision falls below a standard of less than 0, and a person so affected is rendered helpless in consequence of his reduced sight.

The indications which may suggest whatever surgery is considered justifiable or necessary are not clearly defined. This congenital lesion is a rare one, and for this reason both common and individual experience are necessarily limited. Among the accepted disclosures recognized as clinical facts, it is not infrequently observed that in certain cases which have remained stationary for years, and in which suddenly and mysteriously a marked and progressive advance of this congenital deformity shows itself, this is again, after a variable period of time, lasting in most cases, months, and often even years—spontaneously arrested, leaving the patient a fraction of available vision for the most necessary practical needs. Another equally established clinical fact is that this progressive increase of the deformity is more rapid and more pronounced in one eye, and in this hopeless reduction of sight takes place, but in the fellow eye, the same process either does not advance so rapidly or terminates more fortunately in spontaneous arrest, leaving the patient a fraction of available sight. It is not easy to decide whether in such cases it is justifiable to practice interference, which, even in the most favorable instances, is beset with dangers and is extremely tedious, so long as a fraction of useful vision belongs to the fellow eye.

We must not lose sight of the fact that a spontaneous arrest may take place in any case at any stage of progression. By keeping this in mind, too great haste of surgical interference in cases belonging to this class is avoided. This is to be the more remembered in those cases in which the fellow eye is either defective or altogether blind from the same or some other cause.

For these and other reasons to be referred to, the indications for interference can only be settled along lines which apply to the cases in question, and which only the judgment and experience of the surgeon can determine.[1]

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1 The first purpose of surgical intervention also bears directly upon that which was long a mooted question: whether the conical protrusion of the central region was solid and due to an actual increase or thickening, or, rather it was rarefied and due to an excessive or abnormal thinning of the layers of the cornea at this point. Clinical and anatomical studies of typical cases of conical cornea since then have established certain facts which were misinterpreted by the older German and English ophthalmologists. For instance, Himly—*Handbuch der Augenheilkunde*—regarded this excessive conicity as a solid growth or a morbid thickening, and selected for it the name of hyperkeratosis. Sir William Adams—*Journal of the Sciences and Arts*—shared this view and

This brings up questions of practical importance in every case in which operative treatment may be not only justifiable, but indicated. Foremost among these are: Can the surgical methods which have been practiced, singly or combined, in those cases which show an inexorable advance of an existing congenital deformity of the cornea, really affect an arrest of such progression? Are those methods successful which are directed to the cornea alone? Do they involve serious risks? Are they attended by a fair share of success? How explain the good they accomplish, granting that they really bring about a cicatricial flattening with increased resistance of the ectatic region?

The last is perhaps the most important question. It would indeed be an achievement worth striving for, if, in these cases we could verify, in part and in a certain proportion of cases only, the cherished theoretic conclusion that if we substitute opaque scar-tissue, the result of a carefully guarded traumatism, cauterization—galvanocaustic, especially—excision or abscission of the prominent cone for the relaxed and thinned tissues of the ectatic region—we would fulfill the most essential requisite toward bringing about a check to an otherwise hopeless and uninterrupted progression. If this could be brought about with reasonable safety, a supplementary iridectomy would add greatly to the betterment of sight and the purpose of surgical interferences be accomplished.

Unfortunately, however, this is not easy of attainment. It will not be denied that, in some instances, brilliant returns attend operative treatment on the cornea alone, undertaken with the specific purpose to reduce through cicatricial contraction the central deformity and its progressive activity so mysteriously and insidiously aroused. Experience with these cases will soon demonstrate conclusively that such attempts are fraught with exceptional risks. Either reaction out of proportion to the traumatism inflicted is excited, which may even terminate in loss of the eye, or, subsequently the scar-region undergoes repeated necrotic changes, and instead of offering greater resistance, the opposite takes place and the ectasia is more pronounced.

It can only be claimed for the surgical methods which are concerned with the cornea alone, that they are uncertain in their results in affecting an arrest of progression, and that they involve exceptional risks. This brings up another question: Is the central region of the normal cornea more vulnerable to traumatism, and, if so, is this tendency increased in a congenital deformity such as is present in these cases, with thinning, and doubtless also more precarious nutrition of the central lamellæ of the cornea? That this is the fact is the conclusion which has come to me from a limited experience with these cases.

They recall to mind other surgical experiences, such as the sudden starting up—after a long period of inactivity—of a violent and destructive endocapsulitis, in old and confirmed cases of partial or anterior phthisis of the globe with ectatic leucoma of the cornea. In such cases, a slight traumatism—a blow or abrasion of the central region of the cornea—sets up a lesion which in rapidity of progress and destructive tendency is exceptional, and can be averted only by prompt enucleation.

Occasionally also we see, especially in strumous children of African parentage, a fatal expression of pustular keratitis if it happens to localize itself in the very center of the cornea. In spite of every method of treatment, a hopeless infective lesion of the globe results, with loss of the eye.

So also in cases of common traumatism, such as the lodgment of a foreign body. If this is imbedded in or near the center of the cornea, it may, in exceptional cases, be followed—even if promptly removed, and with every caution—by violent and sometimes fatal reaction, taking on the expression of endocapsulitis. If meddlesome or careless interference is practiced, as is done by some mechanics, who, in certain shops, gain a reputation for dexterity in removing particles of emery or steel from the eyes of their fellow workmen—if the foreign body is imbedded in the center, the attempts at removal, which, in other parts, cause little or, at least, no serious reaction, sometimes result in a violent disturbance.

Several years ago a mechanic came to me with the history that on the preceding day a fellow workman had removed a piece of steel from the cornea with a penknife. I found a small infiltration in the very center of the cornea and a dusky, or rust-like, discoloration. It was assumed that an infection had occurred, and an unfavorable prognosis was given. The epithelial layer of the cornea was rough; chemosis of the ocular conjunctiva and proptosis were just beginning. In spite of heroic measures, in a few hours the cornea became hazy and an extraocular infection—endocapsulitis—developed amidst symptoms of intense severity. To anticipate prolonged suffering, as the eye was lost, on the third day it was enucleated. It may be said that the mechanic used a dirty knife, or that its point was rough and conveyed infectious material, or that infection was subsequently conducted along other channels. The most careful inquiry, however, failed to develop more than that the same service had been rendered to others on the same day. Since then I have had several opportunities to confirm this conclusion—that the central region of the cornea is more vulnerable to traumatism and is followed by reaction out of proportion to the injury inflicted. Another and more common experience is that if a violent reaction follows in these cases, it

held "that the lesion was the effect of a morbid growth and that the short sight of the patient was to be attributed to the increased refractive power of the part which together with that of the crystalline lens brought the rays of light to a point far short of the retina, etc." For this reason he advised and practiced the removal of the lens, and in the case which he reports, and which Mackenzie—*Text-Book of the Diseases of the Eye, p. 659*—considered of sufficient importance to quote extensively, a brilliant success was achieved.

Wardrop—*Anatomy of the Human Eye, p. 819*—however, held to the opposite view, which since then has been generally accepted, that an abnormal thickening of the protruded region was not present, but that, on the contrary, the ectatic region was rarefied. In support of this view, he mentioned a case in which a slight blow upon the eye caused rupture of the cornea at this point.

For more modern conclusions and investigations, see:

Fuchs: Text-Book of Diseases of the Eye.

Bowman: Cornée Conique; Congress de Londres; Compte rendu, 1873, p. 204.

Silcock: Conical Cornea: Trans. Ophth. S. U. K., vol. xiii, p. 56.

Tweedy: The Physical Factor in Conical Cornea: Ophth. R., p. 127.

Schiess: Basel, 1891: Drei Fælle von Doppelseitigem Keratokonus.

Critchett: A Case of Conical Cornea treated by galvano-cautery without perforation of the cornea and subsequent small iridectomy. Trans: Ophth. S. U. K., Vol., xv, p. 73.

Gibson: Treatment of Keratoconus by means of the galvanocautery and iridectomy: THE JOURNAL xix, p. 3.

Gullstrand: Ein Fall von Kerato-konus mit deutlicher Pulsation der Hornhaut; Nord. Ophth. Tidesskrift, iv, p. 3.

Knapp: Five Cases of Keratoconus Treated with Galvano-Cautery. Arch. Ophth., p. 540.

Snellen: Die Behandlung des Kerato-Konus; Graefe Arch. f. Ophth., July, 1897.

Bullard, J. W.: Keratoconus: Am. Jour. of Ophth., July and August, 1897.

Sattler, Robert: The Surgical Treatment of Keratoconus. Reprinted from the Am. Ophth. S. Trans., 1898.

takes on a fatal expression of endocapsulitis, or extraocular suppuration, conclusively showing that pyogenic infection traveled along the lymph-spaces—capsule of Tenon—and here has excited, first, an extraocular suppuration, to which is added later on an intraocular infection. Or, perhaps, it is only that the symptoms of the extraocular complication—capsule of Tenon—overshadow those of the intraocular for reasons which are well known. A recent experience again confirmed this statement. An eye with adherent leucoma and phthisis anterior had been blind for twelve years but absolutely free from all irritation or pain. As the result of a slight traumatism, the central ectatic region of the scar was abraded eighteen hours before I saw the patient. At the time of his visit the lids were edematous; the ocular conjunctiva chemotic; the globe dislocated forward and rigidly fixed; excessive pain; no discharge. The cicatricial area was abraded in the center but with no deep pitting; the remaining portion appeared dry and the entire region of the scar showed a peculiar leaden discoloration.

Vomiting had occurred several times and nausea was constant. The eye was at once removed. The capsule of Tenon and the tendons of the muscles showed advanced plastic inflammation, and when the globe was removed the internal surface of the entire capsule was covered with a distinct, pyogenic membrane. The globe was opened, and under the choroid, intraocular plastic inflammation was only in its inception.

To this may be added a case of conical cornea published in the Transactions of the Ophthalmological Society. In this case, for the relief of rapidly increasing keratoconus in a young woman apparently in the best of health, I proposed as a first surgical or exploratory interference, the excision of a narrow, wedge-shaped piece of tissue from a little below the center of the cornea. This simple excision of a narrow strip was followed by paracentesis, amidst the strictest aseptic precautions. Forty-eight hours subsequently endocapsulitis developed with such rapid and violent symptoms that enucleation was the only remedy.

Similar cases have been reported. One mentioned by Mackenzie as occurring in the practice of Adams, bears evidence that this complication was known even to the earlier English surgeons.

It must be admitted that disastrous complications may attend the most carefully planned and executed surgical measures, directed in the main with a specific purpose to the cornea. Experience also sufficiently upholds the fact that repeated paracentesis, cauterization, excision or abscission of the deformed region—in cases in which serious complications do not follow—effect in exceptional cases only an arrest and reduction of the central ectasia. It is a question even with these successful ones, whether the good which is accomplished is not brought about through the central opacity of the cornea, for it is this which aids the supplementary measures on the iris and lens, which almost without exception are necessary to improve or raise vision to a higher standard. For this reason those operative measures which involve a major amount of surgical traumatism to the deformed cornea should be avoided. Surgical treatment must be undertaken with no other prospect than to render opaque the central regions, but with no reliable hope that it will bring about greater resistance of the ectatic region. For this reason the simplest surgical measures should be chosen, and these, as is well known, consist of cautious cauterization and tatooage.

SECURING BETTER VISION.

The second proposition concerns itself with attempts to bring about a betterment of sight in confirmed cases of this ocular deformity, in which vision has been hopelessly reduced: either, as the result of extreme conicity of the central regions of the cornea following a mysteriously started progression, but which was spontaneously arrested or was favorably influenced by the treatment practiced—adjustment of lenses, etc.; or 2, because of an excessive congenital deformity, but in which there can be discovered no evidence that the progressive tendency referred to has ever taken place. In the largest number of cases of this class it will be found that an excessive congenital deformity is present without tendency to fatal progression.

The cases which belong to this class are often greatly and permanently benefited through the selection and faithful use of proper corrective lenses. Sometimes stenopaic appliances are of great aid, but as often not. Strong crossed cylinders, or any combination of lenses which after repeated empirical tests has been found to aid vision, may prove of great service, and such lenses decentered placed or held by the patient in certain positions in front of the eye may even afford an increase of vision over the same lens in exact position directly in front of the eye in the test-frames.

For this certainly smaller class of cases of an excessive deformity, but in which lenses afford a fair amount of vision, should surgery be advised? If vision falls below a standard which implies helplessness, this must be considered a measure of justifiable expediency. If progression has not taken place, such cases offer far better returns from surgical treatment than those already referred to. With these, however, the same statements hold good, though they apply with less force to these cases: to avoid all unnecessary surgery with the cornea, limiting it rather to cauterization, followed by tatooage of the ectatic regions, relying for the restoration of better vision mainly on the supplementary measures—iridectomy and removal of the lens, or both.

Surgical experience and clinical observations uphold two expressions of conical cornea.

The first is more frequent. It is more amenable to the measures ordinarily employed as well as to surgery. The second is less frequent and also less amenable to non-surgical treatment and fraught with more danger if surgery is resorted to.

In the first expression of conical cornea, the entire structure participates in the deformity, but the conicity of the central region is without exception more pronounced. If progression starts, it again finds its chief declaration in the central regions.

The apex of the central cone is generally sharp. Neither involuntary pressure of the lids nor that which is voluntarily exerted, affects, disturbs or alters the conical shape. The apex of the cone is not easily indented with the blunt end of a probe. Surgical experience, furthermore, discloses that the apex region of the central cone, in most instances, is abnormally thin. It may happen, however, that the affected region in this more common expression, may even be increased in thickness. Vision is generally correspondingly reduced, but can, in most cases, be benefited, even with advanced progress or excessive deformity.

The second expression of conical cornea is less frequently observed. The conicity of the central region comprises a larger area. Implication of the peripheric regions of the cornea, though pronounced, is not so marked as in the preceding form. In other words, the

entire cornea is less conical, but a larger portion of the central area is more ectatic. In this form, abnormal thinning of this ectatic region, and, in particular, of the apex of the cone, is met with without exception. The normal pressure of the upper lid, in marked or advanced cases, is sufficient to distort the shape and outline of the conical protuberance. Forcible contraction of the palpebral fissure produces flattening of this region. Pressure against this ectatic central region with a blunt probe readily confirms that this region has a lesser resistance and is easily indented. Surgical experience also fully corroborates the rarefaction of texture at this point. Clinical experience also confirms other points, and that is that visible pulsation of the thinned area is noticed.

The surgical methods for the relief of conical cornea are many and have long been practiced.

The obliteration of the conical protuberance by repeated cauterization with nitrate of silver and other escharotics, led eventually to surgical measures which accomplished this same object of cicatricial contraction and opacity with a lesser amount of painful reaction and danger and in a shorter period of time. For this reason, the use of the thermocautery, and in particular, galvanocautery, has superseded the older methods, and this procedure is justly entitled to preference. More than this, cauterization carefully practiced in selected cases is at present considered one of the safest and most useful surgical methods. Even if undertaken for no other purpose than to transform the deformed but clear central region into an opaque one without any definite hope that a reduction of the conical deformity may be brought about, a very desirable aim is accomplished.

The observation that after an accidental rupture of the thinned central region, the scar which followed reduced the deformity, led, especially on the part of French surgeons, of which Desmarres was a prominent advocate, to repeated paracenteses, followed by compress bandage and rest.

Early in the history of the surgical treatment of conical cornea, supplementary interference on the part of the iris and lens was found necessary even in cases in which the primary object was realized. On account of the large opaque area which followed, and not infrequently anterior synechiæ, it was found almost without exception necessary to perform a small iridectomy.

The view current for a long time that the central ectasia was a thickening of this portion of the cornea, led to the suggestion, and also to the practical surgical experiment of abscission of the prominent cone, excision of wedge-shaped pieces of tissue from or near the apex region, splitting of the cone by crucial incision, with or without paracentesis, cauterization, tatooage, etc. All these methods, however, were found to have a limited application only. They were all fraught with great dangers, and the returns from such treatment, always tedious and painful, were so unsatisfactory that such surgical procedures were only practiced infrequently and with the greatest hesitation.

In the early history of the surgical treatment of conical cornea, the suggestion was made that removal of the lens was a practical venture and accomplished a most desirable benefit for the patient. This suggestion was made and acted upon by Sir William Adams[2] as early as 1817. He had, in a case of successful cataract extraction, in a woman with high myopia, observed that she could see better without any, or required much weaker convex lenses than are ordinarily worn by persons who had undergone an operation for cataract. He recognized the high myopia so uniformly present in conical cornea and suggested and successfully practiced the removal of the lens in a typical case. Useful vision was restored in this case.

During a long interval of time, little or no progress was made either in the perfection of old or the discovery of new methods. Some surgeons condemned operative interference entirely and others practiced it only in extreme cases. For iridectomy, iridotomy and iridenkleisis were substituted by some surgeons.

The knowledge gained from surgical experience and careful clinical studies of conical cornea enables us to summarize briefly: That the surgical treatment of this uncommon deformity of the cornea is attended by uncertainty and danger even in the most favorable cases. Also, that it is without exception tedious. If it is undertaken with the hope of improving vision by reducing the central ectasia through cicatricial contraction alone, it will prove in most cases an unsatisfactory venture.

The simplest and least risky surgical method consists of the discriminate and cautious use of the galvanocautery, supplemented, if necessary by an iridectomy, iridotomy, or iridenkleisis.

Abscission or excision of the central ectatic region, repeated paracenteses, are one and all most uncertain in their final results. The most vicious resentment may follow the most cautious attempts of such surgical interferences and for this reason they should not be too hastily resorted to.

Experience with the more desperate cases suggests as the most rational plan of surgical interference: 1, the removal of the lens by discission or extraction; this is followed by superficial cauterization with the galvanocautery and tatooage—simply to render the ectatic region opaque, but not with the hope or object of bringing about greater resistance on the part of this locality, or, what is less likely to occur, a better restoration of shape and curvature of other parts of the cornea. This accomplished, it may be expedient to perform a small iridectomy, placed in the locality in which it may furnish the greatest possible good.

It must be remembered as an inviolable fact of surgical experience that the most carefully guarded traumatism to the deformed or central region of the cornea may be followed by fierce, and at times by fatal, reaction. In conclusion, it may be stated that surgical treatment is justifiable in a certain number of cases, and while not often one of imperative necessity, may be one of practical expediency, which, however, only the judgment and experience of a surgeon must determine in every case.

2. Adams, Sir Wm.: Journal of the Sciences and the Arts., vol. ii, p. 403, London, 1817.

THE TREATMENT OF KERATOCONUS WITH GALVANOCAUTERY.*

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In 1892, I published five cases of keratoconus[1] which I had treated with galvanocautery.

CASE 1.—Operation was performed on both eyes. On the left eye the apex was cauterized with a fine loop in an area of 2x3 mm. and then pierced, so that the aqueous spurted out. Healing was free from dangerous reaction, but slow. The chamber closed and opened seven times. Before the operation patient read J. 1 at 1″ and with —7D. 20/200; eighteen months after the operation he read J. 1 fluently at 10″, and with —4D.

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1. Arch. of Ophthalmology, Vol. xxi, p. 540.

20/40. The right eye, on account of the slow healing of its fellow, was cauterized cautiously and repeatedly until I saw the aqueous just begin to ooze out. There was a good deal of reaction, and the lens having become cataractous—by overheating the aqueous—had to be needled. Recovery favorable. Vision with +12D. +4cyl. 20/70. The recovery has remained permanent. The young man went through Yale College, stood high in his class, and is now a lawyer.

CASE 2.—One eye only was markedly affected. Sn. No. 6 at 1″. To avoid an irregular cauterization I had electrodes made with a convex, slightly oval end-plate, which I placed on the well-cocainized cornea, and withdrew it the moment it became red. After this I pierced the center of the eschar with a fine-pointed electrode. Undisturbed and rapid recovery. Read No. 2 at 3″; with —4D. 20/70.

CASE 3.—One eye presented a very slight cone, but the other a marked one with a dense patch in the center, so that vision was particularly abolished. Operation, July 18, 1891, as in the preceding case, piercing eschar in center. No reaction for eleven days, when the anterior chamber was restored. Repeated attacks of glaucoma followed, which pilocarpin relieved. A telangiectatic adherent leucoma developed. August 30, a violent attack of glaucoma, partially relieved by eserin and morphin. September 1, downward iridectomy, immediate relief, permanent recovery in a week. A year later patient reads J. 1 at 4″ and with —9D. 20/70.

The severe reaction in this case, and in the second eye of the first, determined me to operate on the two other patients without piercing the cornea.

CASE 4.—L. E., J. 1 barely at 1″. Operation Feb. 29, 1892. No reaction. Improvement of sight considerable; at the beginning of April, J. at 1¼″. Cauterization repeated in the same way in the same place. No reaction. Semitransparent scar in ophthalmoscopy. September 17, 1892, I was told that her eye had given her no more inconvenience. She read with the naked eye J. 1 at 10″. V. 20/50. Glasses no improvement.

CASE 5.—The sixth eye is almost a repetition of the previous one—L. E., J. 1 at 1″—and with —15D. 20/200. Two cauterizations, one March 10, 1892, the second March 23, 1892. Permanent visual result, J. 1 at 10 to 12″; with —3D. —1cyl. ax. 25°, 20/30.

To study the effect of the galvanocautery on the eye I made experiments on eight rabbits (loc. cit.), which showed that the reaction and the subsequent scar are proportionate to the extent and intensity of the cauterization. Moderate burnings, with or without perforation, healed kindly and left circumscribed scars. Extensive and prolonged cauterizations were followed by intense iritis, suppuration, and even sloughing of the cornea. To the six eyes of keratoconus published before and here given in short abstracts I can add eight new ones.

CASE 1.—Miss Edna D. had marked conus in one cornea. J. 1 at 1″, 2/200 for distance without glasses, i. e., about 15/200 with glasses. Galvanocautery with disc-like electrode, June 16, 1893. Some pain the first twenty-four hours; none later. November 1, second cauterization. November 11 upward iridectomy on account of central opacity. November 16, reads No. 2 at 6″. V. 20/200; with —3.5D. —2.5cyl. 20°, 20/70. No discomfort since.

CASE 2.—Both eyes. Mrs. Mary F., Cohoes, N. Y., Keratoconus on both sides, with speck in right cornea. September 20, 1895, right J. 1 at 3″; left at 1½″; operated on both eyes. Undisturbed recovery. Small optical iridectomy on temporal side. October 8 and 31, 1895, R. Sn. 2 at 4″, 6/200; with 5 D. 17/200. L. Sn. 6 at 4″, 4/200; with —10D. 10/200.

CASE 3.—Mrs. Robert B., Oceanic, N. J., aged 25. Keratoconus progressive in both, R. J. 1 at 3″, L. J. 1 at 1″; with her own glasses, R. —5 D. about 15/200; L. 4 cyl. 30° 20/50. Operated on R. E. November, 1897. No noteworthy reaction. Re-examined May 22, 1900. R. —8 D. —2 cyl. 30 ° 20/70.

CASE 4.—Mrs. Bertha S., New York City. Keratoconus, R. more than L. Came May 16, 1898. Thinks that L. has been greatly worse after childbirth, three years ago. Now R. J. 1 at 1″, with —9 D. 20/200; L. 20/70, with —3 cyl. 45°, 20/50, J. 1 at 5″. Right cornea, two small maculæ at apex. Is positive that L. formerly was excellent. June 16, 1898, apex touched with galvanocautry, perforated with pointed electrode. Some secretion and pain. Slow healing. July 17, wound closed with anterior synechia. Soon afterward great pain occurred in eye, nausea, vomiting. Pilocarpin and morphia gave relief. July 19, iridectomy upward; no reaction, no pain, opacity smaller. Tn. and S. better, 20/70. Examined in May 1900. Eyes quiet. Right, adherent leucoma downward, large artificial coloboma upward.

The following four eyes have been operated on according to the method of Mr. Anderson Critchett, of London. He burns at low heat a large area superficially; then with a little more heat, a smaller area more deeply, and lastly with a smaller point at a dull maroon heat somewhat deeper still stopping short of perforation. He thus creates two zones and a small central spot, the whole bearing some resemblance to a concentric target. Over the area of the outer ring, where only the superficial layers are touched, the cornea in almost every instance regains its former transparency. In only two cases out of ten, on which Mr. Critchett has operated by this his latest plan, has he found it necessary to perform an optical iridectomy. The improvement in vision has, of course, varied in degree, but in every instance it has been very encouraging; in one case raised from 6/60 to 6/9, without any glass correction.[2]

CASE 5.—Both eyes, Miss A. M. A., Watertown, N. Y. Eyes formerly very good. Now keratoconus, left more than right. R. 20/200, L. 10/200, with crossed cylinders. R. =J. 1 at 4″. L. at 2″. Point and opacity slightly below and down from center of cornea.

The left eye was operated on November, 1899, as follows: With a convex, disc-like burner at dull-red an area reaching from the center of the well-holocainized cornea down and outward about 4 mm. in diameter, is superficially singed. Holocain is dropped in again. After a few minutes a smaller zone within the former is treated the same way, and holocain dropped in again. Lastly the disc is placed cold on the cornea opposite the outer-lower quarter of a moderately dilated pupil, the current is closed, and the disc withdrawn the moment it is red. These three areas differ distinctly in color, according to the intensity of the effect. The center appears like a dirty brown depression, as if in it the whole corneal substance were destroyed, and the aqueous humor kept back by the eschar. I was careful not to let the upper limit of the cauterization go beyond the center of the pupil, in order to obviate the necessity of a subsequent optical iridectomy.

The young lady immediately after the cauterization saw 20/100 without glasses. This primary effect of the cauterization is known. It may be owing not only to the flattening of the cornea which we notice at once, but also to the diminution of the aqueous humor. The recovery was undisturbed. The sight was 20/100 (from 10/200).

The right eye was then operated on in the same way. It recovered without disturbance like the other. Its sight was raised from 20/20 to 20/70 with —2D.

CASE 6.—Miss R. N., Bergen Point, N. J., keratoconus slight, non-progressive in R. eye, L. marked and progressive. R. =20/40; L. fingers at 6; reads J. 1 at 1″; with —20D. =10/200, cylinder gives no improvement. Galvanocautery February, 1900. Recovery smooth. Sight good, namely, June 2, 1900, with glasses =20/70. Reads J. 1 at 6″. Nevertheless, the cornea shows again a slight conical prominence, which may make another simple cauterization desirable.[3]

2. From communication made at the Ninth International Congress at Utrecht, August, 1899.

3. Done in June, 1900, without reaction, and good result.

CASE 7.—Alcie A., New York, reads R. No. 1 at 1″, and has with —2D. S. =12/200. L. not impaired. January 17, 1900, galvanocautery. There was mild reaction from the cauterization, which soon subsided. Patient was discharged in eleven days; has not been seen again.

This makes a series of fifteen successive operations, all of which were more or less improved, as the subjoined table shows at a glance. I should not omit to mention that vision was noted as determined by glass-corrections before and after the operations.

FIRST SERIES—VISION.		SECOND SERIES—VISION.	
Before.	After.	Before	After.
1. 20/200	20/40	1. 15/200	20/70
2. 20/200	20/40	2. 6/200	17/200
3. 7/200	20/70	3. 4/200	10/200
4. 1/1000	20/70	4. 15/200	20/70
5. 15/200	20/50	5. 20/200	20/70
6. 20/200	20/30	6. 10/200	20/100
		7. 20/200	20/70
		8. 10/200	20/70
		9. 12/200.	Unknown. (Did well.)

The improvement of vision is not the only gain; the greater gain is the arrest of the progress of the deformity and degeneration. Though we know that keratoconus may become stationary at any stage of development, we commonly notice that, at least in one eye of the patient, the cone not only increases, but the cornea on and around the apex becomes patchy.

In my attempts at relieving keratoconus cases, I have not had to deplore the loss of a single eye, but in many cases the treatment by cauterization with silver nitrate has been inadequate.

The superficial galvanocautery is not much better. Seeing this, I, for a time, have thought that perforation was a necessary factor in securing the desired effect. The perforation in some cases was followed by bad consequences: slow healing, repeated openings and closures, anterior synechia, glaucoma. The cautious and progressively deeper cauterization with the galvanic current has obviated these prejudicial consequences and proved efficaceous. I am not unaware that my own cases, and I dare say those of other ophthalmic surgeons, are not numerous enough to warrant us against the occasional loss of an eye, but feeling our way cautiously and supplementing insufficiency of experience on man by experiments on animals will make our practice safer and more and more beneficial. In the manner of executing galvanocautery in keratoconus I shall endeavor to observe these two rules:

1. Never cauterize too deeply, and if the result of the first operation be imperfect, apply the convex disc electrode again to the place in which you want the subsequent cicatrical contraction to have the greatest effect.

2. Spare, if in any way possible, at least half of the pupilary area. If we operate early, even in restricting as we should our interference to the progressive cases, we have to deal with a clear cornea, the reaction will be least, and the visual result as well as the operative effect greatest.

I need not say that we should not operate when the least septic condition is present in the conjunctiva or in the lids and surroundings of the eye, in particular in the lacrimal sac.

DISCUSSION ON PAPERS OF DRS. SATTLER AND KNAPP.

DR. S. D. RISLEY, Philadelphia—There is probably no topic in ophthalmology about which I feel like being less dogmatic than the subject of keratoconus. My own management of this affection has always been very conservative. Very early in my professional career I conceived the idea that it was one of those affections that belonged to diseases of the anterior segment of the ball and was primarily dependent upon a diseased condition of the uveal tract.

I think the treatment should depend on the stage of the disease in which we find the eye. If still progressive, which will be indicated by the fact that the eyes are painful and the patient is suffering with severe headaches, we shall find more benefit by insisting on a prolonged rest of the eye and enforcing this by the use of mydriatics, using them alternately with weak solutions of eserin or pilocarpin, and the use of a compress bandage in the earlier cases. With the idea of the disease that I had, that we were having a stretching of the anterior segment of the ball instead of the posterior segment, as occurs in the eyes of young myopes, due to a lack of nutrition, I have made much use of the bandage, filling up the spaces over the closed lids with cotton, closing them for twenty-four hours and when the bandage was removed using gentle massage through the closed lids. At night the bandage might be removed to put in a solution of eserin, as strong as will be borne without causing pain, and then renew the bandage after an interval of rest. This was my early management of cases of progressive conicity of the cornea, until such time as the headache and tenderness of the ball disappeared, and then while the pupil was still dilated I made careful measurements of the cornea by the Placedo disc and then through the stenopeic slit and otherwise gained the best visual results I could. I would then allow the pupil to contract and go over the optical study of the cornea again to pick out the best glass, often getting the best results with the crossed cylinders. It is usually a matter of pure empiricism as to what glass will give the most benefit.

I think conservatism in the treatment of these cases is in the majority of instances better than surgical measures, especially if we consider that it is a pathologic condition of the cornea which is apt to be progressive and due to an impaired nutrition of the eye itself. If time permitted I could present a considerable group of patients that had been thus managed, some of whom have been under my care now for a good many years, having been among my earliest patients.

I may say I have been greatly pleased with the visual results that Dr. Knapp has just rehearsed in our hearing, for they exceed the results that generally come from optical correction, but the cases I have referred to have been greatly improved by the conservative treatment. One young man has just concluded a college course and another is passing through his college course now. Another man I recall at this moment is the principal of a large educational establishment in the central part of Pennsylvania. He was absolutely unable to use his eyes at all when he first came to me he passed through the mydriatic and myotic treatment with compressed bandage, and when he at times found the bandage intolerable he would take it off for a while to reapply it when he felt better. His treatment ran over a period of four or six months, and he has had no trouble with his eyes, no asthenopia for years, but he drops in occasionally to let me see him. During the past year there occurred a slight change in the principal meridian of his left eye, and I had to change the axis of a cylinder he had been wearing for twelve years, a few degrees. He has gone back to work again with comfort.

DR. BURNETT—I would like to ask Dr. Knapp as to whether the visual acuteness he announced was taken without the use of glasses, or whether there was an optical correction.

DR. KNAPP—It was taken with glasses.

DR. SATTLER—I would like to emphasize the point Dr. Knapp made in reference to cauterization, that it be limited to bare perforation of the cornea. It may be repeated as often as necessary.

Gelatin in Hematuria.—Schwabe reports in the *Therap. Monatsh.* for June a case of hemorrhagic nephritis that was unmistakably benefited by subcutaneous injections of a solution of gelatin below the clavicle on each side, supplemented by a pint of a 10 per cent. solution of gelatin ingested during the day. No red corpuscles were to be found in the urine by the end of a week.

THERAPEUTICS OF TRAVEL AND CHANGE OF SCENE IN NERVOUS AND MENTAL DISEASES.

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This paper is suggested by the experience I have had in seeing a large number of cases in which travel or change of scene has been employed without resulting in benefit, or with apparent injury; also, to a less extent, in seeing patients improve or recover for whom travel had been recommended after they had received all the benefit they could be given by home, hospital or sanitarium treatment. Other patients have been observed who were incurable from the start, e. g., victims of paresis, who were sent traveling with the fallacious hope of benefit or palliation—in some cases the disease not being recognized—with useless trouble and sometimes disastrous results—explosion of maniacal excitement in public places, death in a foreign land or other distressing occurrences. Again, I have encountered cases of melancholia with suicidal impulses, or patients with delusions of persecution, who have made suicidal or homicidal attempts while traveling, to the great distress and confusion of all concerned. It is undeniable that great benefit may result from travel, when the conditions both of the patient and of the journey are favorable; and there are undoubtedly many cases where recovery results—of these latter we are less apt to hear, because they no longer seek medical aid. The relative proportion of benefit and injury is, therefore, difficult to estimate, but the inquiry seems worth while: In what cases is travel or change of scene likely to be beneficial, and in what cases, contraindicated?

Both nervous and mental diseases are included in this discussion, and properly so, for there are many patients with nervous disease pure and simple, or, at least, where no question of mental integrity arises, whose mental state is, nevertheless, a most important element, and may or may not be benefited by travel, while, on the other hand, there are many cases with pronounced insanity, for whom, however, travel can be made decidedly beneficial, if not curative.

I will here cite some cases illustrating the above remarks, confining myself for brevity's sake, to the bare outline of each case:

A woman, aged 60, of neurotic temperament, with some senile changes in the heart and blood-vessels, who had had a severe attack of neurasthenia some years before, suddenly developed insane jealousy regarding her husband, with whom she had lived happily for forty years. Her propensity to irritability and violent anger, with loss of self-control toward her husband and children, was so great that a change of surroundings was found necessary. She was sent to a Southern seaside resort, but grew constantly worse from day to day. She was then brought home, but could not be kept at home, as her conduct bordered on the maniacal, though she remained rational in everything except her jealousy. She was placed in a sanitarium, and after about three months' treatment regained her health. This same patient, in a previous attack of neurasthenia, was sent to California, and constantly grew worse there, being under the obsession of the idea that she would never reach home alive; that there was some incurable uterine disease, and no one but her home adviser could do anything for her. She was, accordingly, taken to her home again, and I was informed that on her arrival she was anesthetized and told that she had been operated on, though there was no condition requiring operation. She then went on to a fair recovery, being usually well for some years.

A patient suffering from neurasthenia was sent to Europe, with the expectation of cure from travel. While she was abroad a member of her family died; she hastened home; the obsession seized her that this relative was enduring endless punishment in the other world because not orthodox in his beliefs, and insomnia in aggravated form developed. Prolonged and rigorous rest-cure was tried, without avail; then a trip to a watering-place, but all her symptoms grew worse. Finally three or four months' systematic treatment in a private hospital for nervous and mental diseases resulted in such improvement that the patient was recommended hom where her convalescence was completed. In this case the trip abroad might possibly have been beneficial but for the death of the relative, but such events as this must be taken into account in sending a patient abroad. Another feature of the case deserving note is that the full completion of convalescence was best attained by a change to her home from the hospital at the right time.

Another patient, a woman of 50 who suffered from extreme insomnia and "phobias" of various incurable diseases, visited numerous European health resorts and traveled extensively at home without benefit, but improved very decidedly when treated for six months in a suitable hospital, and has been for a year at home in better health than at any other time since she broke down.

A patient with puerperal mania was sent into the country and temporarily improved, but grew worse at once on her return home. She was then again sent away on a trip, but became delirious. When she came under my care an acute delirious mania had developed, which proved obstinate and protracted, and for a time threatened death from exhaustion, but resulted in perfect recovery after five months' treatment.

A young man was twice under my care who on two occasions became insane while traveling, having been sent from home with the idea of benefit when in the prodromal, depressed and melancholy state of a psychosis, which would have been labeled "acute mania" under the usual classification.

I find on looking over the histories of a series of forty-six cases in which the patient was sent from home for recreation, that there were thirteen instances of unmanageable mental state, in which compulsory care or legal commitment became necessary. The remainder of the forty-six were cases of neurasthenia, hysteria or mild psychosis, in which, as no improvement was experienced from travel and change of scene, my advice was sought. Patients in numerous instances were taken to the *Mardi Gras*, to some large city for a round of amusement, to some fashionable watering-place with the same idea, and injury, rather than benefit, was the result. It was evident in some cases that the friend or nurse accompanying the patient was enjoying the diversions of travel and sightseeing more than the patient, and could not, or would not see that the ostensible object of the trip—the improvement of the patient's health—was not being furthered.

One patient who came under my care suffering from primary dementia had evidently broken down as a result of the strain of taking an epileptic brother for a European tour, during which constant difficulties and disagreements arose.

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Five cases I have noted in which the effect of taking a patient suffering with neurasthenia or mild melancholia from the country to a general hospital in a large city was to precipitate a mental or physical crisis. The strange and unwonted sights and sounds of such an establishment and the contrast to a quiet country home were naturally unfavorable for a patient of this description.

Another patient, who was for many months under my care without benefit—a case of paranoia of long standing—illustrated in her earlier history the evil of sending patients who are undergoing rapid changes where they can not be under constant medical observation. This patient, a brilliant, accomplished young girl, by the direction of an eminent neurologist was kept under the care of a nurse and given frequent changes to the various health resorts and cities of the Atlantic seaboard. There had been no suspicion of mental disease entertained by the physician named, or, if there had been, it had not been communicated to her family, and their first knowledge that she was insane came from finding her at a hotel, where she had been for weeks, almost wholly refusing food under the influence of delusions, while the nurse allowed her to stay in bed with total disregard of all hygienic conditions. Her friends always believed her subsequent development of confirmed insanity was largely due to her neglectful management, though it is, of course, probable nothing could have prevented the ultimate appearance of mental disease.

Some experiences in sending "paretics" traveling which have come under my notice are here worthy of mention. Palliation is in such cases all we can expect from any treatment, but aggravation of the symptoms, exposure of the patient to unfortunate and serious annoyance, trouble and expense, have been the results in the large majority of such cases, judging from my own observation.

One patient was sent from Colorado to California last summer to visit friends. He attempted to engage in business there, became maniacal, wasted a large amount of money, and was finally brought across the continent in a violent and unmanageable state by two attendants, to be placed under my care.

Another, whose condition was not recognized by the medical man in attendance, was sent to Scotland, where he grew rapidly worse, and was brought back only to die in a few weeks. When the true condition became known to the family in this distressing manner there was sever censure of the ignorance, or lack of care, shown by the doctor in charge.

Another paretic, whom I saw at a hotel at the time of the World's Fair in Chicago, came from an Eastern city for recreation. He had been in a comfortable remission for about five years. After a few visits to the fair he developed a series of violent epileptiform convulsions, which lasted forty-eight hours, causing great alarm and distress to a large circle of friends. After being cared for for some time at the hotel he was removed home in a special train. His deterioration was somewhat more rapid after this seizure.

Another paretic, taken to a summer resort upon one of the great lakes, caused endless trouble before he could be brought home and committed to a private hospital, where he rapidly improved. He returned home in a few months, and remained quite comfortable for a year, when another threatened maniacal attack was cut short by his going to the same hospital for a few weeks only, and he has now been at home for some months.

Another case of this kind was recently sent from a Southern state to a large general sanitarium. The plain symptoms of paresis had not been recognized, or at least, no such diagnosis was communicated to the family, who had endured serious anxiety and expense they could ill afford in the hope of cure, when the patient was placed under my care. I could only advise the family that the condition was incurable and recommend a state hospital.

Similarly, I have been consulted in the cases of patients who had been sent to Colorado, to Japan and to the Pacific coast. Many other cases might be mentioned, but their main features would be the same.

What has been said above militates largely against travel as a method of treatment. Now, on the other hand, I would state from my own experience that I have seen much benefit from travel, especially in the convalescent stage. A recital of cases of this kind would be mostly the record of uneventful recovery, and yet I find that I have a comparatively small number of cases to report. Of seventy-six of my own cases in which travel and change of scene had been previously employed unsuccessfully, there were thirty-two cases of recovery while the patients remained under my care, and five for whom a further change of surroundings was later secured, and who subsequently recovered; four of these were cases of melancholia, and one a case of morphin habit, not of long standing.

One patient, a melancholiac with senile changes, who had been suicidal, and on a certain day expressed a wish to throw himself under a moving train, and attempted to do so, was taken on a long journey the next day by his daughter, much against my advice, but arrived at his journey's end alive.

Aside from cases in which cure has resulted, I have seen a large number of cases in which travel and change of scene were of great service, mostly in chronic conditions where nervous erethism was relieved by the diversion of thought to new and interesting objects. The old maxim, *cœlum non animam mutant qui trans mare currunt,* does not apply to cases of nervous and mental disease, for it is constantly evident in such cases that the suggestive influence of new objects does produce a change in thought and feeling. This change may be for the better or for the worse, according to the internal and external conditions in each case which I will briefly discuss at the close of this paper.

The essential elements of travel in general are quaintly described by Baedeker in a quotation from v. Sittewald, who wrote about two hundred and fifty years ago:

Wer reisen will
Der Schweig fein still
Geh, stetem Schritt
Nehm nicht veil mit
Tritt an am frühen Morgen
Und lasse Heim die Sorgen.

I venture to translate this freely as follows:

When traveling your own counsel keep.
Go onward with a steady step.
Get every night a good night's sleep,
Rise early on the morrow.
Take little load
Upon thy road:
And pray, no trouble borrow!

The essentials of the above are: Suitable reserve in meeting crowds of fellow travelers, steady progress, a definite plan or itinerary steadily carried out, good sleep, small luggage and a care-free mind.

Certain of the above are, on their face, important for a nervous invalid. Such a one who can not secure for

himself or have secured for him, freedom from outside impertinence or annoyance, a well-ordered plan of journeying, free from capricious change, a good sleep each night, and who can not travel without burdensome baggage and appliances, and enjoy a mind at ease and free from care, will hardly be able to benefit by mere divagation from place to place upon the earth's surface. The ordinary plan, the good sleep, the light luggage and the untroubled mind, are especially valuable for any invalid, and we see how difficult of attainment these are for neurotic individuals. A garrulous and capricious person, as so many of our invalids are, would become constantly involved and confused. A sufferer from insomnia would, as a rule, soon be worn out. A dyspeptic or over-particular person, or one ailing physically, as is the case with so many, would meet annoyances and trials which would nullify all good of the journey, and one given to worry and anxiety would grow worse instead of better. Of course, exceptions might occur to all these rules. A suitable companion, who had the confidence of the invalid, might overcome many of these difficulties, especially with a passive, easily-influenced patient.

There may be mentioned the bearing upon this question of certain mental states. Of course the acute stage of mania, melancholia or dementia would preclude travel. In chronic cases, suicidal tendencies and delusions of persecution and suspicion would contraindicate travel. All paranoiacs who are capable of becoming dangerous or homicidal under their delusions should be prohibited from travel. Paretics vary enormously in different stages of the disease and in their individuality. There are certain exceptional conditions under which such a patient may travel, but, as a rule, such patients, where the disease is active, are liable to fall into the hands of the police.

In considering travel for neurasthenics, hysterical patients and victims of hypochondria, it is especially important for the two classes first mentioned to determine whether rest is not more important than any other condition. Often the inclinations or wishes of the patient can not serve to guide us in the least; such patients crave change and novelty, and will evidently enjoy it, but may be all the while increasing nerve-exhaustion, while an unnatural excitement may impel them onward to the verge of collapse, or beyond it. Hypochondriacal patients, too, in some cases, have their morbid ideas confirmed, in others dissipated.

It may be broadly stated that the stage of convalescence from most nervous and mental maladies is the one in which benefit may be obtained from travel. Here a reservation should be made for those in whom profound prostration, both mental and physical, develops on the cessation of acute symptoms and the setting-in of convalescence.

I have spoken in my title of "travel and change of scene" considered as therapeutic measures and, in some cases it is necessary to discriminate between the two. There are many patients who could not travel from place to place with advantage, but who imperatively require a change of scene. A single change and remaining in new surroundings would often be beneficial, while repeated change would be injurious. Such single change, according to the state of the patient may be either a visit to congenial friends, a sojourn at some pleasure resort, a stay in the country, or the change may be combined with treatment by selecting a medical institution.

In studying this subject I have gone over the literature to some extent and made extracts. I quote here a few opposite sentences:

Esquirol says—quoting Seneca:—"Travel is of very little use in emotional disorders, hysteria, many cases of neurasthenia and affective insanity." He mentions Socrates' answer to a melancholiac who complained he had no benefit from travel—"I am not surprised. Do not travel with yourself." Esquirol proceeds: "Nevertheless the ancients prescribed journeys. They sent their patients to take hellebore at Anticyra and to make the leap at Leucate. The English send their melancholiacs to the southern parts of France and Italy, and even to the colonies. I have always observed that the insane are bettered after a long journey, especially if they have visited distant lands, the location and views of which have seized their fancy; if they have experienced the difficulties, the annoyances, the *contretemps* and the ordinary fatigue of travelers. Travel acts also by exciting the assimilative functions. It produces sleep, increases the appetite and the secretions. Convalescents who dread to reenter society, where they fear having to talk of their disease, are less discomposed after a journey, which is the subject of their conversation with their friends and relatives." Allowing for certain exceptions, the words of Esquirol are very wise.

Dagonet says: "Among the means that have been recommended we find walking and travel. But the value of this last agency has been strangely exaggerated. Hardly have the first signs of insanity declared themselves than the patient is advised to travel. Harmful at the beginning, this agent produces good results when employed at a later period, and especially during convalescence."

Marce, in his practical treatise, says: "Journeys are highly recommended in the treatment of insanity. They renew impressions, excite interest by the sight of new objects and may cause a healthful diversion from morbid preoccupations, but they are impracticable with disturbed (maniacal) cases, and full of danger with those who have ideas of suicide. They should be reserved for quiet cases, whose delusions tend to become fixed and to always revolve in the same circle."

Griesinger remarks: "Immer soll der Kranke den schädlichen Einflussen, die bisher auf ihn wirkten, entzogen, und es sollen ihm neue, wohlthätige zugeführt werden. In vielen Fällen debarf es hierzu einer durchgreifenden Umänderung aller Aussenverhältnisse; Ortsveränderung, kleine Reisen namentlich Fuss—und vorsichtig gewählte Badereisen, wenn die ausseren Vehältnisse solche gestatten (niemals aber Reisen in Grosse Städte, wo Hirn und Sinne des Kranken aufgeregt werden), sind hier oft vom besten Erfolge."

Says Regis: "Travel is an efficacious therapeutic agency in mental derangement, and at the same time is a salutary means of diversion. By removing the patient from his usual surroundings, it corresponds, indeed, to the very principle of treatment isolation, while at the same time it causes moral and physical distraction that reacts favorably on the mind of the patient. Specially recommended by Esquirol and some of his students, who had obtained good results with it, it is less utilized at the present on account of the inconveniences and the dangers to which it may give rise. We may employ it, also, in some chronic insanities with subjects more or less inoffensive, but in these cases it is only a means of diversion capable at the most of producing a relative sedation. Whatever the morbid form and the end proposed, the physician ought never to advise or permit an insane person to travel, except on condition that the patient should

not be accompanied by any of his nearest friends; that the direction of the trip should be by an experienced person, in preference to a young physician; finally, that all precautionary measures should be taken to prevent, as far as possible, any disagreeable events or accidents."

Bucknill and Tuke say: "Should the threatened man travel? We think not often. Change of scene may do much good, but not constant change of scene with its labors, irritation and trials, especially if undertaken in foreign countries. This constant change of scene, which we call travel, easily suggests itself to friends and physicians. It is so obvious a method of getting a man away from places and people and circumstances which are irritating and obnoxious, and of removing him out of sight for a while that it is an expedient adopted with far more frequency than wisdom. We have known most disastrous results from it. Men threatened with lunacy who have been sent on their travels we have known to commit suicide in foreign hotels and in mountain solitudes, to have outbursts of raving mania in railway stations, and in city streets, and to get into the hands of the police for outrageous conduct. The friends of such a man who send him on his travels without sufficient watch and ward, commit a flagrant breach of private responsibility and of public decorum. As far as cure is concerned they might as well throw their friend from the house because a lunatic is said to have been cured by pitching accidentally on the right cranial spot. What they do, and know what they do, is to hide their friend for a while from the eyes of their own immediate public and to postpone the responsibility of taking proper steps for his care and treatment. . . . If he be attended by a medical man instructed in his case, by a trustworthy body servant and a good courier, and has 'put money in his purse,' there is no reason why the efficiency of foreign travel should not be tried under proper advice. . . .

"Travel within the four seas is quite a different measure, and with due provision for care and protection, for the right admixture of rest and fatigue, of change and repose, is a very fair and proper thing to try, not only in threatened yet undeveloped insanity, but also in many chronic conditions of mental disease, and especially also in the state of convalescence."

Clouston remarks: "A sea voyage, that favorite recommendation of despair, often does far more harm than good, and is attended with many risks. How many suicides I have known to result from this cause!"

Says Kellogg: "As a means of psychotherapy travel and change of scene in certain cases are unsurpassed. This form of treatment has been greatly abused by the sending of acute cases of insanity on a rampage from one country to another. The remedy is suitable in occasional cases in the initial stage of mental disease, but it is chiefly important when acute symptoms are at an end, and there is need of novelty and change to hasten and complete the mental restoration. In intelligent patients convalescence is often marked by mental depression, due to surging memories of the painful causes of the insanity, and to a certain conscious feeling of loss of social standing and of the confidence of friends. Instead of return to old surroundings and a host of disagreeable recollections, travel and change of scene are of the utmost benefit in confirming the cure in these cases. The rich insane, partially recovered with permanent defect, and without dangerous tendencies, should be allowed such pleasure in life as can be derived from travel. The view that all mentally unsound should be confined is grossly unjust, and hundreds of thousands of such persons are living in enjoyment of perfect freedom and comparative happiness. Such insane patients have a veritable mania errabunda, which should be checked rather than indulged."

I will now briefly present some results of the tabulation of cases encountered in my own experience when travel and change of scene were tried. The statistical method, so fallacious at all times, is perhaps of even less value here, but a few points may have some interest.

In five years' experience, out of more than 600 patients treated by me, 110 had been sent from home with the object of benefit or cure before coming under my care. Of these 51 had been sent with the double object of change and of medical treatment, nearly all to medical institutions, springs, etc.; 16 had gone for visits to friends; 23 to resorts of various kinds for recreation; 8 to the Pacific Coast; 12 to Europe, Japan and across the seas. None of these had recovered; most of them had grown worse; a few had improved, but still needed care and treatment.

Of the total of 110, 38 were practically incurable; 9 of paresis, 13 of paranoia, 11 were confirmed habit cases, 2 senile, 1 ataxic, and 2 epileptic. Of the 73 possibly curable cases, 36 recovered after an average of three or four months' treatment; 10 of these were depressed and exalted forms of psychosis; 7 neurasthenics; 5 had hysteria; two were habit cases. In the 73 cases there were 18 suffering from delusions of persecution, and of these 10 were cured, but I have not known a case of this kind to improve by travel.

In conclusion I may summarize my remarks as follows:

Travel and change of scene for mental and nervous maladies can not be judiciously prescribed except by careful consideration of the individual case. Travel may be good in one stage, and bad in another of the same disease. If the patient grows worse by travel, this does not prove the treatment bad, for some cases will grow worse whatever is done. It may even be necessary to make a careful experiment before the question can be settled. Another fact regarding travel is that a great deal depends upon the manner of its regulation. Patients who can command every facility for comfort and safety and an experienced medical escort, could travel where such a course would be injurious and dangerous for one of moderate means.

Again, we must discriminate between cases in which a curative result may be expected and others in which palliation is all that is attainable.

Certain symptoms may be said to raise a strong presumption against travel. In nervous diseases the real weakness of neurasthenia and hysteria—often masked by an excitable and irritable state—require rest rather than motion, though the patient outwardly appears strong, and is himself incapable of knowing or judging the limits of his strength.

Certain self-centered patients who are incapable of giving attention to any external object can gain no benefit from travel.

In mental diseases, delusions of persecution, the presence of elements of danger to self or others in the mental state, suicidal or homicidal tendencies, active and changing mental conditions, especially with visual and auditory hallucinations, will generally forbid travel.

In the convalescent stage of all these diseases, travel may be expected to prove most efficacious.

In sending a patient for travel or change of scene, some suggestions may be offered:

In most cases where a neurotic patient is sent from home, safety and welfare will be best consulted by combining treatment with the change of surroundings. The patient should have access to a well-qualified practitioner, or, perhaps better, enter a medical institution capable of giving the recreation and supplying the diversion without the risks of travel, and with medical supervision otherwise not attainable unless a physician accompanies the patient.

Visits to friends by a nervous invalid except when convalescence is well established, are of little use, and may be very injurious.

Long journeys to Europe, to the Pacific Coast, etc., should be very carefully considered in all their bearings before undertaken.

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5. Regis, E.: Psychical Manual of Mental Medicine, pp. 566-7.
6. Bucknill and Tuke: Psychological Medicine, pp. 646-7.
7. Clouston: Mental Diseases, p. 693.
8. Kellogg: Text-Book of Mental Diseases, p. 505.

DISCUSSION.

DR. E. G. CARPENTER, Columbus, Ohio—I wish to say a word with reference to one class, and that is in regard to the cases of melancholia, because there is a general vagary, even among the profession, that diversion and getting the patient away from home will tend to convalescence in melancholia. The reader has cited cases which show that it meets with failure. Those people that are interested in themselves and self-centered find it annoying to see things, be entertained, and be where many people are. It irritates them and does them absolute harm, and above all, they are cases which should be kept quiet until convalescence. When that is established it will be time for diversion and travel to be brought most effectively in play.

DR. H. A. TOMLINSON, St. Peter, Minn.—The chief essential to success in the care of cases of this kind that are traveling as a part of their treatment, is the caretaker, and I believe many of the failures resulting are due to the fact that the person taking care of the patient is not competent. The first element that enters into the failure of nervous health is loss of self-control, accompanied by morbid self-consciousness, and unless there is some one with the patient who has the character and strength of will necessary to control the patient, it does not make any difference what he attempts to do, his efforts will almost surely fail. Another point is the necessity to discriminate as to the attitude of the patient toward his surroundings; whether he wants to seclude or exploit himself. It is well to recognize that the patient will as a rule want to adopt a line of conduct which will feed his morbid self-consciousness in the direction of his mental perversion. Therefore he must be firmly and persistently antagonized and compelled into the proper attitude toward his environment. It is my experience that the importance of these tendencies is not sufficiently recognized; consequently the caretaker is inclined to follow the line of least resistance and accede to every whim of the patient that does not interfere with his own comfort or convenience.

DR. J. H. MCBRIDE, Los Angeles, Cal.—Neither in cases of incipient insanity nor in those cases in which the disorder is fully developed is travel advisable. In certain exceptional cases in which there is danger of the development of insanity the diversion of travel may be beneficial with proper companionship. Travel is mentally and physically taxing for the well, and it is very liable to be harmful to those who are insane or as yet imperfectly recovered from an attack. A very important part of the management of the insane and of those who are convalescent is that they have a quiet, undisturbed, even monotonous, life, with, however, a certain amount of variety, but without excitement. The proper adjustment of interests to their needs demands the nicest discrimination and excludes novelty or anything that tires or excites. As the recently cured morphinist is weak in self-control and incapable of enduring stress, so the recently recovered insane person is weak and is mentally unstable, and to send such person home or traveling before the normal stability and resistive power of the brain is regained is as unwise as to dismiss a fever patient as cured when the temperature drops to normal. There may be occasions when travel is a choice between that and the patient going home too soon. When the insane person has given up his delusions and talks sanely he is liable to think he ought to go home, and it may not be easy to convince him and his family that he should remain away from home for a long period. In such cases one may find it advisable to have the patient travel. The redevelopment of the mental stability of the recent insane is a slow process, is in fact a re-education, a growth, and the friends should understand that months or a year may be occupied in getting back the normal mental vigor after the active symptoms of insanity are gone. When these cases travel they should go about it in the most quiet way and thus avoid hurry and tire. The cases, too, should be carefully selected, for intelligent and cultured people can travel under such circumstances with greater safety than those who lack the interests of such people and to whom travel is more of a dissipation, and therefore an excitement. It is difficult, however, to lay down rules. The question must be decided upon the conditions of each case. The question of travel is one about which the alienist can easily make mistakes, and when there is any doubt any proposition for travel had better be vetoed.

MORPHINISM FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.*

T. J. HAPPEL, M.D.
TRENTON, TENN.

A practitioner of medicine in a large city, as a rule, has not as intimate a knowledge of his patients and patrons as his confrère in the small country town of two or three thousand inhabitants. In the cities, unless it be an exceptional case, the statement of the patient must be accepted as our basis upon which to draw conclusions; but in the smaller towns, nearly every one is personally known to the physician, who may have had, in a long life, a personal knowledge of three generations. It has been my own experience in several cases to have had a knowledge of as many as four generations of several of the families for whom I have practiced, and in cases referred to in the subsequent portions of this article, frequently three generations have been my intimate acquaintances. It is just such a condition as this that will make statistics honestly furnished by general practitioners in the country of fully as much value as hospital records; for it is a well-known fact that the morphin habitué will both lie and steal, if it become necessary, at any time to get a supply of the drug.

INCREASED CONSUMPTION OF OPIUM.

The alarming increase of the amount of opium imported into this country, far exceeding the legitimate demands brought about by an increase of population, gives one a slight idea of the rapidity with which we are becoming a nation of opium-eaters. In 1860, the United States imported 72,000 pounds of opium; in 1880, 372,000 pounds, and in 1893, nearly 1,000,000 pounds, an increase of sixteenfold in forty years, with an increase of about twofold in population.

If 72,000 pounds was sufficient for all medical uses in 1860, certainly it has been used largely in other ways since that time. A druggist in a town of 2500 inhabitants, laid in forty-eight ounces of morphin as a supply for his drug store for three weeks, and yet there were three other drug establishments in the same town. The vice grows rapidly, and the end of the course is not yet. We inveigh against the use of liquor. Prohibitionists grow eloquent in declaiming against the evils

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resulting from drink, and overlook an evil which is poisoning the very sources of all that ought to be good. Women, as a rule, do not indulge in the use of alcohol, especially those in the upper strata of society; would that I could say that they are equally free from a more blighting vice. High living, the demands of modern society, and efforts to keep pace with those more able physically and financially, soon produce such a state of the system as to demand a stimulant, and a dose of morphin is used for the relief of some real or imaginary trouble. The relief once obtained is again demanded, and in a short time the confirmed morphin habitué is the result. It is not my intention to attempt to trace the development or progress of morphinism, but to present some facts connected with morphinism with which I am conversant as a practitioner of medicine in a small city.

EFFECTS OF OPIUM ON FERTILITY AND ON CHILD IN UTERO.

In a article written some years ago, I detailed the histories of several patients, showing that the morphin user does not become sterile, or lose all sexual appetite. In that paper cases were cited where the users of the drug continued to bear children, in several cases three, in another four, and in yet another two—though in this last case the mother aborted—and in another one. These cases were all in families under frequent observation, for all of whom I practiced. From statements made to me by habitués themselves I am satisfied that the sexual appetite is not destroyed; in one case, a young man of 25 years, whose grandfather was a drunkard, his grandmother a neurotic, his father a user to excess of both whisky and morphin—dying finally from the effects of the opiate—and his mother ending her days at about forty years in the same way, the sexual appetite is claimed to be as vigorous as ever, while he uses not less than twenty grains of morphin, hypodermically, every day. Where the father is a user of morphin the children begotten have not been many in a family. In the case of the mother, abortions have seemed to me to be more frequent; and where the children have been brought at full term, I have found many cases in which the children have died cyanosed from non-closure of the foramen ovale. In the case of one mother, one child was born, which within forty-eight hours became restless and cyanotic, and in spite of simple remedies, died before the end of the third day. At that time I did not know that she was a morphin user. Two years later another child was born, which in every respect duplicated the history of the preceding one. About two years later a third was born, which died as did the first and second. The mother at the time was using increasing doses of morphin. Two years later, a fourth child was born, which showed all the effects of morphin that the three before it had, but knowing at that time that the mother was using two drams of morphin a week—about seventeen grains a day—I began the administration of full doses of paregoric to the infant, and after gradually increasing the doses to about twenty drops every three hours, I found a steady improvement; the cyanosis disappeared on the fifth or sixth day, and after one month I was able to discontinue the use of the opiate. At no time was the child quiet during that period, except when under the influence of the drug. The digestion of the child was poor, and it had an aged, withered, pinched look. At the age of five months it died. In another case, a mother with no hereditary taint, with an excellent family history, suffered from periodic attacks of sick-headache. She had menstruated scantily all her life. She gave birth to a vigorous, healthy boy, who at the age of 18 years is strong mentally and physically. Between the birth of this one and the second child, she began using morphin, though not in large doses; but she was constantly under the influence of the drug during the whole time of the second pregnancy. The child was born at full term, but had an aged appearance, was nervous, restless and fretful, with, at times, cyanotic attacks. Dover's powder in half-grain doses was given every two hours; then on the second day it was increased to one grain, and repeated *pro re nata*. The babe became quiet; cyanosis gradually decreased, and the opiate was then diminished. The child is now living, and at the age of 12 years is not as large as he should be at 8 or 9, nor is he vigorous otherwise, physically or mentally. This same mother gave birth two years afterward to a female child at full term; and again, two years later, to another female, both of which died with every symptom of an open foramen ovale. This mother is still living, but has not been pregnant for eight years; she still uses morphin, but not in increasing doses. She has always denied any sexual appetite.

MORPHIN RETARDS DEVELOPMENT.

I have been persuaded, in reviewing the work of my earlier life, that in many of these cases of death among infants where no reason could be assigned for them, the opium curse accounts for the trouble. The rationale of the non-closure of the foramen ovale in such children is easily understood. We know that opium in any of its forms delays all changes in the human economy, and hence in the pregnant woman who is a morphin habitué, the nutrition furnished the child in utero is vitiated by the drug; the full and perfect development of the fetus is delayed, and at the last moment labor begins before the closure of the foramen has been properly advanced, hence the child's circulation after birth is the same as that in utero, and cyanosis follows, because a proper supply of oxygen is not furnished the blood, as it should be during respiration, the blood being diverted by the open foramen in the direction of the fetal circulation. If the child be kept alive for a few days, by careful management, the foramen closes and cyanosis ceases. To keep this child alive, it is necessary, as has been shown frequently, to give it some one of the many preparations of opium, gradually reducing the dose until the drug-habit has been eradicated.

FIRST DOSE PRODUCING HABIT.

In some cases it has been clearly and conclusively shown that with the first dose of the narcotic, the child becomes a confirmed opium-taker. Such a case has been reported by Dr. Crothers, and I have had a similar experience with a patient who is now using twenty grains of morphin per day. This person did not get his first dose until he was several years old, and from the time that was administered, he reports that he has not been able to restrain his desire for the drug. One forcible detention for a few weeks in a "Cure," and several efforts to withdraw the drug gradually, have proved complete failures. He now reports that he has no desire to leave off the drug, yet he knows that both his father and mother ended their days as confirmed users of it. He calls the drug his medicine, and he believes that he can deceive even the elect in regard to his using it. I have never yet seen a confirmed opium user whose assertion could be depended on in regard to anything.

CYANOSIS AND MORPHIN.

Returning again to the question of cyanosis, I desire to impress one point, learned from experience drawn

from many cases of children born of morphin-using mothers, viz., that when an infant that has been unusually quiet, resting sweetly, reported by mother and nurse as a "good baby," for from twelve to twenty-four hours, begins to fret and grow restless without any apparent cause, and when, in addition, the nurse reports the child as "looking blue," then it becomes important to inquire into the family history of the child. Not only should inquiry be made of the mother, but of the nurse and father. Then, if no light can be gained in the matter, the mother should be watched. If the drug is used it can soon be determined. She can not do without it after labor, and if deprived of it, the after-pains may cause, as they did in one of my cases, puerperal convulsions. In this case the mother died before she could be gotten under the influence of the drug, of which she had been using seventeen grains a day. The child was saved by administering opiates and afterward gradually withdrawing them.

CURE BY GRADUAL WITHDRAWAL.

Another point has been established in the work of the general practitioner, viz., that if a patient honestly desires to abandon the morphin habit, it can be gradually withdrawn without much discomfort to the patient, sometimes with the aid of some substitute for the morphin, such as papain, and sometimes by means of the gradual withdrawal of the morphin, substituting enough of strychnia, as the morphin is lessened, to stimulate the patient to the point that the "gone feeling" does not develop.

In another case, where I found a prisoner using thirty grains of morphin *per os* a day. I had no trouble in rapidly reducing the dose, beginning with eight grains morning and night, combining each dose with five grains of quinin, and leaving off one grain of morphin out of each dose every day. The patient never suspected the reduction until the dose reached one grain twice a day, but no nervous symptoms supervened until the dose was reduced to one-eighth grain twice a day. Then, discovering what had been done, he became unruly, but in three days the storm had passed and the appetite disappeared. We have all found that those who use morphin hypodermically on themselves, are managed and reformed with more difficulty than are those who use the drug *per os*. I have had one patient who abandoned the hypodermic use of morphin, which she had kept up for years, by substituting, *per os,* some patent preparation of opium. She seemed to suffer not at all while withdrawing and decreasing the hypodermic. I would by no means advocate the home treatment of morphin habitués, except for such cases as are sometimes met with where the patient must either continue a slave to his or her appetite, or be treated at home. The habit can be eradicated much more rapidly under changed surroundings than it is possible to do at home, where everything brings the morphin habit so forcibly before the patient.

MANY PHYSICIANS ACQUIRE THE HABIT.

On still another point I am prepared to go on record authoritatively in regard to morphinism. In glancing over some records in my office I find, in a list of the names of one hundred and fourteen physicians, almost all of whom have been personally known to me, eighteen who became addicted to morphin—nearly 16 per cent.—five who used whisky to excess—three of them dying of chronic alcoholism, and three who became addicted to the excessive use of chloroform, one of the three inhaling it to stupefaction as a substitute for whisky, and all three dying from its effect. These records show that twenty-three, or about 20 per cent., were unfitted for the practice of medicine by reason of their habits.

MORPHINISM AND HEREDITY.

As to the question of heredity in its relation to morphinism, my own observations are fully in accord with those of many other writers on the subject. The morphin habit is not transmitted, except in the few rare cases already referred to, where the offspring of the morphin-using mother demands the drug from its birth to preserve its life; but a certain dyscrasia, or peculiar state of the nervous system, results that in the course of time demands either alcohol or opium, and when the first portion of either is taken, the ruin and wreck has begun. In the family of a morphin-eating, whisky-drinking physician, I have seen one son die a perfect wreck from the use of both these drugs, and another son worse than dead, a vagabond upon the face of the earth. In this family the mother had no bad habits, was unusually bright mentally, and her characteristics, both mental and physical, were transmitted to the girls. In another physician's family a son and daughter have developed the morphin habit. In another, where alcohol was the curse, one son is a wreck. In two patients, not physicians, the children born to them—one father being a morphin habitué, the other an alcoholic—have no mental acumen. In another family where for three generations whisky and morphin were both used, the third generation is almost extinct, without offspring; the one representative has never used either drug, but suffers for the sins of his ancestors.

Our almshouses and asylums are being rapidly filled with degenerates; even in our country counties and towns, where many of the vices of "higher civilization" such as syphilis, sexual debauchery, etc., are unknown, and where the history of the case can be traced without doubt to the excessive use of some of the derivations of morphin. Whisky has slain its thousands, but a vice of a greater magnitude, because it can for a long time be indulged in secretly, and one that is seizing hold upon the mothers and daughters of the day, will have to be faced and fought in the twentieth century. We as physicians owe it to the nation to keep this subject plainly before the people.

MEDICOLEGAL RELATIONS OF OPIUM INEBRIETY AND THE NECESSITY FOR LEGAL RECOGNITION.*

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HARTFORD, CONN.

How far is a morphia or opium habitué responsible for his acts? Will the use of opium or other narcotic drugs diminish or destroy the sense of right and wrong, or of duty and obligation? Will opium and allied drugs whose physiologic action is most prominent on the sensory centers disturb the reason and the higher moral centers and encourage crime and criminal acts? Practically the opium inebriate is uniformly untruthful, particularly regarding himself and his use of drugs. Like the alcoholic, when under the influence of drugs he resorts to intrigue and deception, often coarsely or skilfully executed. Thus secrecy, deception and disregard of all questions of ethics and duty are the common symptoms. Obligations of honor and respect for society and for those having claims upon him have little influence compared with his morbid impulses and feelings.

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In some instances in the earlier stages but little change is apparent in the higher brain function, but when subjected to pressure or strain of temptation the real condition appears in weakness and failure, which was unsuspected before.

CHARACTER OF CRIMES COMMITTED BY THE HABITUE.

The action of opium on the brain and nervous system is that of a narcotic and depressant, hence crimes of violence are rarely committed. Crimes against property and character, and crimes associated with selfishness, scepticism and credulity are more common. Some of the illustrative incidents of these classes are the disinheriting of the only son in a will because he has incurred his father's displeasure. Another man forges a note to procure money for opium. Another enacts a scheme to defraud his father. In another case a swindling operation is engaged in. In still another a printer goes about the country marrying in every town that he lives in, disappearing in a short time, changing his name, and seeking new acquaintances for the purpose of marrying again. These are crimes of selfishness and impulse, and are often associated with cunning and design, but they lack the essential features of calculating criminals.

WHY MORPHINISTS ARE IRRESPONSIBLE.

There are many physiologic reasons for the assertion that opium inebriates are irresponsible for their acts. Continuous narcotism and blunting of the sensory centers impair the power of reasoning, by obscuring and narrowing the impressions of the senses. The opium inebriate has always diminished and deranged powers of seeing, hearing, taste and smell. The objective world is not correctly seen. The subjective functions of the brain and nervous system are slowed up and their activity and acuteness lessened. In addition to this the waste products are increased, and the power of elimination is retarded. Favorable soils are formed for the growth of toxins and poisons which in themselves are sources of depression. Anemia and disturbed nutrition are common symptoms of this condition. It would be impossible for such persons to have a clear recognition of the nature and consequence of acts and conduct. Practically, persons suffering in this way act automatically, repeating what has been done before, showing some recognition of duty and obligation, but if confronted with a new set of facts and new conditions, would be unable to recognize the relations of right and wrong. All opium inebriates are controlled by the impulse to procure and to use the drug at such times as they may think best for their comfort, and every consideration must be subservient to this impulse. The comfort or discomfort which comes from the use or absence of the drug is always attributed to objective conditions, hence, the reason is perverted and sense activities are deranged. Pessimism associated with egotism grows so rapidly that the relations, both of the subjective and objective conditions and events, are confused and misunderstood. Where the quality and nature of conduct and acts come into question this defect is very apparent if along unaccustomed lines of thought and action; and often it will vary widely with the physiologic condition of the person and of his surroundings.

LEGAL RESPONSIBILITY IN DISPOSITION OF PROPERTY.

Recently these questions of responsibility have come into prominence concerning the disposition of property by persons who use opium.

A recent instance is that of a merchant who had used morphia for five years, and was forced by persuasion of his sons to undergo treatment in an asylum; he made a will disinheriting them. He urged that he could recover at home, and that it was a hardship to go away under special treatment. The morphia was withdrawn, and he returned apparently cheerful, and continued in former pleasant relations with his sons. One year later he died from an accident, and a will was found giving all of his property to his daughters. This will was drawn up after the return from the sanitarium, when he was not using morphia, and was apparently in full possession of his senses. He explained to the lawyer who drew the will that this disposition had been resolved on for a long time and grew out of want of confidence in his sons. In a careful study of the case I found that morphia had been given for insomnia and neurasthenic states some years before and had been continued in increasing doses up to the time of entrance into an asylum. Soon after he began to use morphia, mild delusions of losing his property and fears of loss by fire and burglars grew constantly. At times he was excited because unusual efforts were not made to avoid these dangers. After returning from the asylum he was more irritable and depressed than ever. The strong probability was that he began the use of morphia again although this was concealed. His delusional egotism and continued denial of using the drug when it was in his possession were prominent symptoms. From this and other facts I was convinced of his irresponsibility and mental perversion at the time of writing his will. The result was a settlement out of court.

Example 2.—A morphinomaniac who began the use of morphia eight years before for relief from neuralgia following an attack of malaria, continued the doses, gradually increasing them until he was using twenty grains a day. Except occasional somnolence and short periods of excitement, he seemed in no way changed. Suddenly, without cause, he sold out his business and property to a clerk for a very low price. His family applied for a guardian, and a commission was appointed to examine him. His changed mentality and extraordinary care of his business at times, followed by periods of great excitement or indifference and disregard of any business considerations, were the most prominent symptoms. He had delusions and fear of violent death, and would not ride in a public conveyance. He thought his family was opposed to him and wished to have him die. At times he was very credulous and emotionally religious; then he would become skeptical of everything and doubt every statement made. The commission decided that his mind was impaired to the extent of being unable to judge of his property and of his relations to his family.

These examples are given to show that in the care and disposition of property an opium eater is most likely to have an impaired mind and mentality, and is unable to reason sanely and to understand the relations and duties to others. His impressions are unstable and his reasoning changeable; hence he is not likely to act consistently or rationally.

RESPONSIBILITY IN SWINDLING AND FRAUD.

In criminal acts the morphinist and opium-taker is often seen in swindling operations, deception and frauds. A very few cases have been contested on the ground of irresponsibility of the criminal. In most of these cases the facts of the history were not studied with sufficient minuteness, and the court preferred not to enter upon the fine distinctions or to permit innovations in the ordinary rulings. One such case preferred to go to prison rather than to have a defense made on the ground of opium-taking. The circumstances were these:

A manufacturer, 54 years old, in good health, and of excellent character, was given opium for some digestive troubles. The effect was so pleasing that its withdrawal was followed by insomnia, and hence opium was continued. It was changed to morphia, which was used by the needle secretly. Six years after, he was tried and sentenced to prison for forgery. He had used the names of his friends on bank notes, and became involved, although not bankrupt. The forgery was unreasonable, and without special motive or purpose, and wanting in the usual cunning of this class of crime. His embarrassment could have been relieved without resorting to this crime. For two years he had forged papers and notes, taking them up before the forgery was found out. He was not a poor man and did not seem to make anything by these efforts. He could not explain why he had done this, and did not seem to realize the nature of the act, but excused it in a childish way as "business methods." His mind was feeble and he manifested religious delusions, carrying on a correspondence with relatives who were dead. To his family he was reticent and suspicious, rarely irritable but always melancholy. There was unquestionably mental impairment in this case, and a degree of insanity which was not recognized. The man is now serving out his sentence, his mind seriously affected. Had he been sent to an insane asylum and properly treated, there might have been recovery.

RESPONSIBILITY FOR EXTREME SELFISHNESS.

Other cases of opium inebriety exhibit symptoms of intense selfishness which merge into dishonesty and crime. Often such persons show a veritable delirium of acquisitiveness. Their relations to others are those of grasping selfishness and contant efforts to borrow, beg, and appropriate everything of value which may or may not add to the comfort of the individual. Such persons are always slanderous, deceitful, and untruthful. They commit crimes of minor character and show extraordinary ability in denial and explanations of their conduct.

Recently a morphinist of several years' indulgence died. An inventory of his property showed a large collection of miscellaneous articles which had been both borrowed and stolen. An effort was made in the courts to identify these goods and to distribute them to the rightful owners. It was found that for years he constantly begged, borrowed and finally stole, everything he fancied. The foremost thought of his mind was to procure something for nothing. He was shunned by his neighbors and friends, and on several occasions was arrested, but was always able to prove an alibi. There seemed to be no object in life except to procure morphia and to go about gathering up things. He seemed to possess cunning enough not to steal openly or to go about at night, and when confronted with his theft always explained that it was borrowed, to be returned at a certain time. This mania was a degree of irresponsibility which should have been recognized as clearly as if it had been homicidal. He possessed a certain amount of intellectual capacity, talking about events outside of himself, and showing a perception of the relation of the surroundings and conditions common to ordinary men.

It is not intended to imply that this peculiar symptom of delirious selfishness is of itself insanity, but when it springs up associated with the excessive use of opium it may naturally be regarded as evidence of irresponsibility. In all these cases there may be surface indications of sanity which may be purely automatic, associated with defects of reasoning and sensory impression, which will not bear the test of critical study.

REPRESENTING TWO TOTALLY DIFFERENT CHARACTERS.

In a paper read before this section last year I pointed out a form of crime following morphia-taking, which apparently had for its object the representation of two different characters. In such instances the leading desire is to be recognized as an honest, innocent man, and at the same time act out the part of an adroit swindler. Under the influence of morphia, both these parts were acted with skill and a degree of judgment. When the morphia was withdrawn singular confusion and childishness would appear. These cases are called by detectives the most adroit and dangerous because of their low cunning, audacity, and utter absence of all consciousness of right and wrong.

PETTY, STEALTHY CRIMINAL ACTS.

Another class is becoming more apparent, whose petty criminal acts are confined to thefts, perjury, and disgraceful conduct. The shop-lifters and the sneak thieves who seldom do anything boldly, who study to keep up the appearance of honesty, but always fail with every temptation and opportunity, are common examples. Many seem to lack the boldness of criminals, but excel them in deception and duplicity. A certain number of these cases are recognized by their friends and are sent to asylums for treatment. The withdrawal of the morphia reveals their real condition, and their constant intrigue and slanderous conduct make them very difficult patients.

CAN THE OPIUM INEBRIATE BE TRUSTED AS A WITNESS?

The question has been asked and answered differently in several important suits, namely, how far can an opium inebriate be trusted as a witness in matters in which he has or has not an interest. I think there can be no question that all statements of such persons on the stand should be considered worthless, unless confirmed by other facts and strong circumstantial evidence. In a recent case an opium-taking woman swore to an assault which she witnessed. In reality, no assault took place. Her statement was either a misconception or a wilful perjury. In another case an opium-taking lawyer swore that he had witnessed a certain will. It subsequently appeared that the will was written and witnessed a long time before. In criminal cases the question of the reliability of the witness is often very important, but the fact of taking opium should always increase the supposition of the possibility of error. The opinion held in courts at present is that the use of opium in any form does not impair the degree of responsibility unless the drug has been used a long time, and stages of chronicity have been reached. It is also asserted that the opium-eater is responsible except at periods when the opium is removed and the mind is in a state of delirium and intense irritation due to this cause. While crime may not be committed during this latter stage, there are always phases of insanity and delirium which can not be mistaken showing the irresponsibility of the acts. The conduct during this period is so clearly that of insanity that no question or doubt can be raised. In disputed cases it is a reasonable procedure to show that the criminal was not using opium at the time the crime was committed, or was not in a condition of opium delirium owing to its withdrawal, but was in a state of opium saturation. In all these conditions, the principal fact that opium had been used a long time previously would be good reason for inferring mental change and unconsciousness of the nature of conduct and acts. The fact should be recognized that the use of opium either in large

or small doses for a long or a short time, depending upon the man and his condition always changes and alters the reasoning powers and sensory activities, and is always followed by intellectual weakness with diminished moral sense and consciousness of right and wrong. In many instances this disability is very prominent and apparent from the early use of opium. In all cases this damage to the higher brain centers is persistent and progressive. In some instances it is precipitate and intense. In others it is slow and concealed. In one case under my care a man who was previously of a good character suddenly dropped to very low levels of intrigue and moral paralysis; both his talk and conduct showed marked irresponsibility. This damage from morphia appeared within a year from the time of the first use, indicating both accumulative and concentrative action on the higher brain centers. His intellect in other respects was not much changed. In the case of a printer who was a bigamist, marrying with every opportunity, the injury from morphia was manifest in the same direction. His mind and body seemed not to suffer much change, the insanity of his case developing in this direction. In a noted case of the abduction of a child, the criminal was a morphinist, and the crime was without motive or purpose. Most opium cases coming under legal notice show defects of both reasoning and consciousness, which are usualy concealed by egotism and delusions of free will and power to do differently.

THE CLINICAL HISTORY IMPORTANT.

Wherever the fact of opium appears in a disputed case, the most careful investigation should be given to the clinical history. The first condition and circumstances in which the drug was used will often throw great light on the direction of the degeneration and the pathologic changes which are most active from its use. After the drug has been used a long time, certain local injuries and impairments of functions are always present. From this general study the progressive march down through successive stages is noted by certain localized disabilities and dissolutions, bringing out the fact of irresponsibility without question. Such a study will aways dispel the common delusion that opium-takers are not injured but are responsible and perfectly sane in thought and conduct. It will also clear up the mystery which has gathered about cases where frequent narcosis is produced without the appearance of any serious damage. Crimes and questionable acts by narcotic habitués are always open to suspicion and in most cases the certainty of coming from disease and diseased brains.

The question in most cases whether these perversions and changes are indications of permanent organic changes can only be settled by an appeal to the clinical facts which may be gathered with the same accuracy as those of any other disease. It is perfectly clear that opium-takers should be classed among the insane, and morphinism should be studied as a member of that family of diseases. It is also absolutely clear that all use of opium or of other narcotics is followed by organic change and limited responsibility and impaired degree of health.

NEED OF MEDICOLEGAL STUDY OF MORPHINISM.

The necessity of legal recognition and study of these disputed cases is growing more urgent every year. Questions of partial or total irresponsibility, and failures to realize right and wrong are coming into prominence constantly. When alcohol is used alternately with opium the complexity of the symptoms increases. In reality the degree of unsoundness also increases, and with it irresponsibility, until it is doubtful if anyone can use both long and be sane and rational. The use of opium alone may be continued some time without attracting attention or creating suspicion of mental change. The following cases show that the use of opium was unknown before the commission of crime. A woman killed her infant child and was unable to recall or explain the motive for the act. She became a maniac soon after conviction and sentence to prison. It was found that she was a secret opium-taker and committed the crime in some delusional stage after a larger dose of the drug than usual. A man convicted of incendiarism proved to be a morphia-taker. In prison he suffered from collapse following the withdrawing of the drug, and became insane. He had a mania for the use of morphia, also to set fire to property, and concealed his acts. In another case a man suddenly traded his property for mining stock which was worthless, thus impoverishing his family. An examination revealed the fact that he was a secret opium-taker and had for years committed strange acts. In another case a man invested all his property in a machine for perpetual motion. He was a morphinist, and his use of the drug became known after this event. Another case of a man who became an accessory to a murder, was known to use opium, and although strange and eccentric in his conduct, was considered to be sane. He had been using opium for years and never manifested any violent symptoms, although associating with low company much of the time. A leading specialist swore that he was sane and responsible for his acts and conduct. It is difficult to understand how any one can use opium and be continually narcotized, even in a slight degree and retain health and mental integrity. An examination of such persons shows that they are largely neurotics and degenerates. Many of them have inherited states of nerve and brain exhaustion, and from neglect and bad living have injured the brain and nervous system; such persons have defects, with feeble and unstable brain centers, and the use of opium increases and intensifies this instability. In all the disputed cases which have come under my notice, the first use of opium was found to precede or follow some organic and functional change. These departures from health might have gone on to serious disease in some other direction, but from opium they became concealed, intensified, and turned in certain definite directions. The fact that it was a most grateful sedative at the start indicated a diathesis and predisposition which was significant of further changes. Given a heredity to exhaustion and prediposition to seek relief from psychical and physical pain, and to this add neurasthenic states and the use of opium for years, and it would be impossible to have a clear rational brain and consciousness of right and wrong. In all such cases strange conduct, unusual erratic acts, uncertain, unstable brain functions, morbid impulses, failures of reason and judgment, and inability to recognize right and wrong, and duty to others, followed by crimes, would be the most common sequelæ. Such cases, if studied with the same critical accuracy as that of typhoid fever, insanity and nerve diseases, would appear as irresponsible beyond the slightest shadow or question. The rule should be to examine these cases, beginning with the commission of the crime and going backward, finding the character and extent of the opium addiction, and its physiologic action on the body and mind, tracing this condition still further back to the first use of the drug, and ascertaining all the causes and circumstances asso-

ciated with its use and the heredity and predisposed states of ill health and disease, to this add the study of the injuries and physiologic changes which have profoundly affected the vigor and growth of the body.

From all these facts very clear conceptions can be drawn of the capacity or incapacity to realize the higher ethical relations of life. Going beyond this, the psychologic question of to what extent any impairment of the brain has destroyed the knowledge of right and wrong may be studied in the act committed. In all these, authorities and courts will differ, often depending upon the theories of the relation of the mind and body, and also on the facts of the case and their meaning. As medical men, we can never be mistaken in claiming irresponsibility for all these cases where the facts indicate an addiction of long continuance. An almost infinite combination of conditions and circumstances will, of necessity, vary and change the minor conditions of each case, but the general facts will remain true, namely, that the use of opium continuously always impairs the responsibility and consciousness of right and wrong.

The conclusions from this study may be grouped as follows: 1. An increasing number of cases where opium addiction has preceded, and is associated with, crime calls for a medical study with some authoritative legal rulings. 2. Both medical experts and judges hesitate to recognize irresponsibility from opium-taking alone and attempt to explain the phenomena by other theories and conditions. As a result, much confusion and injustice follows. 3. Any general study of these cases brings out the fact of disability, and often the crime itself is purposeless and indicates the disorder of reason and control. 4. The use of opium falls most severely on the higher brain centers of consciousness and right and wrong. The derangement of the senses reacting on the reason still further separates them from sanity and health. 5. There should be no question of the incapacity of opium-takers to execute bills and contracts, or to understand the relations of conduct and duty in all relations of life. This should be asserted theoretically, and a study of the cases will practically sustain it. 6. The medical profession should insist that a degree of insanity and irresponsibility exists in all these cases; then legal recognition will follow. 7. Already in several states legal rulings have been made recognizing a limited and impaired responsibility in certain of these cases. Still the theory prevails that the reason is able to discern the conditions and realize the penalties of failure. 8. The pressing need is for a wider study of the facts of the addiction in these disputed cases. Such a study must be made above all theories, statements or appearances, and entirely from the facts and conditions present. 9. Medico-legally, this is a new field awaiting research, in which the number of cases is constantly increasing and the questions of responsibility and degrees of insanity are submitted to the profession more urgently than ever.

DISCUSSION ON THE PAPERS OF DRS. HAPPEL AND CROTHERS.

DR. KENNISTON—I have had a good deal of experience with insanity, and I agree with what Dr. Crothers has stated, that the prolonged use of opium produces not only a moral but also a mental degeneration. Of course, every one is familiar with the class of cases of Coleridge and de Quincy, and how an opium-eater will lie; and a man who has become a confirmed liar is apt to be sooner or later mentally unsound. I have seen a great deal of mischief caused by the reckless prescription of opium by physicians. Opium is often the lazy physician's remedy. I know of at least six cases who are mental, physical and moral wrecks, because of the prolonged and excessive use of opium.

DR. W. S. WATSON, Fishkill-on-Hudson, N. Y.—I heartily agree with the points made by Dr. Crothers in relation to the action of opium on the higher senses. The drug habit unquestionably favors the production of toxins in the system, and a secondary autointoxication is very frequently indirectly, if not directly, due to the drug habit, consequently, mental diseases are not infrequently due to the use of drugs, such as morphia and the other derivatives of opium. I have met with many instances similar to some of those which he pictures. There is no question that the physician is often responsible for the introduction of this habit.

DR. T. J. HAPPEL, Trenton, Tenn.—The general practitioner has to bear his burden, but he is not responsible for all of these cases. The teaching upon the effect of this morphin habit is not what it should be. Our people should be impressed with the curse of it. We have many people agitating against the use of liquor, and many clergymen preach against it; but it does seem to me that some of these efforts might be profitably employed in the direction of an extension of public knowledge on this important subject, the dangers from the use of morphin.

DR. T. D. CROTHERS, Hartford—The question of the mental capacity of opium-takers has come into prominence during the past few years, and while no leading decisions have been made concerning the responsibility or irresponsibility of users of opium or morphin, there is evidently great confusion in the minds of experts as well as judges concerning the facts. At one time there were two cases in which the capacity to devise large estates was the point of issue. A number of medical men gave conflicting opinions as to the meaning of the facts in the case. The adjudication of both cases was unsatisfactory, due largely to the want of clear apprehension of the mental condition of the testators. I think any careful study of a number of cases will convince the student that morphinism means irresponsibility and diminished ability to distinguish between right and wrong. The constant narcotism which comes from morphia must of necessity impair both the senses and reasoning, and while each case is a law to itself, we must admit impaired mental ability. My aim has been in this paper to bring out this fact and to attempt to rouse greater interest in this subject, which is becoming prominent in courtrooms.

TREATMENT OF MORPHINISM.

THE NECESSITY OF A MORE UNIVERSAL KNOWLEDGE THEREOF: REPORT OF CASES.*

A. J. PRESSEY, M.D.

CLEVELAND, OHIO.

The medical profession may be divided into three classes, with reference to their different views of morphinism and its treatment: 1. Those who consider that the addiction has produced a diseased condition of the nerve-centers and that by a well-directed, scientific treatment the patient may be restored to health. 2. Those who believe that the continuous use of morphin produces such a pathologic condition of the nerve-centers that treatment is of no avail, that is, "once in morphin always in morphin." 3. Those who look with little sympathy on those unfortunates who have become accustomed to the use of narcotic drugs, and who seem to consider the use of the hypodermic a mere habit which could be as readily discontinued as could a physician cease toying with his watchchain or mustache while talking at the bedside of his patients. In other words, they think that if the person desires to discontinue the use of the drug, why does he not quit it?

In regard to those in the first division we will say that morphinism has long been known, by those who have given it the most attention, to be a curable disease. Of course, there have been many relapses, after

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the best known plans of treatment. There always will be some relapses, but these, I believe, will grow less and less as the disease is better understood and treated. There are many other diseases which frequently relapse, but that is not a sufficient reason why they should not receive treatment. I have never heard of a physician refusing to treat a case of appendicitis because of its liability to recur.

In regard to the second division, I wish to relate a few experiences. About five years ago a young man came to consult me regarding his case. He was using 60 grains of morphin per day hypodermically. Every portion of his body which he could reach to use the hypodermic was covered with abscesses produced by the needle. I counted fifty on one arm between the shoulder and the wrist. He was in a deplorable condition both mentally and physically. He had been advised that day by a physician to go to the hospital and have the abscesses cured, be taught how to use the hypodermic so as not to make more, and continue to take as small doses as possible, for he could never be cured of the "habit." He, however, decided to take treatment, was finally cured, and three years after was free of morphin; since that time I have not heard from or of him. Four years ago Mrs. N. came to me for treatment, and said she would have been treated two years previously had not her physician told her she could not be cured. She decided to make the effort, took treatment and was cured, and I believe she is yet free of the addiction. Mrs. D., who had arrangements nearly completed to come to my place for treatment, received a voluntary visit from her family physician urging her not to attempt treatment, and stating that she could never be free from the use of opiates and that she had better continue their use. However, after further correspondence, she came, took treatment, and was cured. Mrs. B., a widow who is at the time of writing this paper under treatment, came to me a physical wreck, using 20 grains of morphin per day hypodermically. She was very much emaciated; her appetite was very poor, digestion bad, bowels very much constipated; she got little sleep, and was compelled to stay in bed one or two days every week on account of headache. Her physician, who was formerly a partner of her husband and is now a personal friend of hers, urged that she could not be cured. She is now using only 1 grain per day. She has increased in weight eight pounds. Her appetite is good; she sleeps well; the digestion is improved; the bowels are in better condition, and she has had no headaches in several weeks.

I might recite many other cases, but the above are sufficient to show that at the present time there are some physicians who do not believe in treatment of morphinism. This condition can be only detrimental to the physician and doubly so to patients, for there is no doubt that many patients are discouraged from taking treatment and continue in the most wretched condition, when with better advice they might be restored to health and useful lives.

The third class, or those who look upon the addiction as a mere habit, probably have seen little or nothing of the abstinence symptoms which follow within thirty-six hours of the time that abstinence begins, such as vomiting, diarrhea, cramps in the legs, arms and abdomen, profuse perspiration, extreme nervousness that is varied and indescribable, prostration with possibly collapse and death. It would seem from a physician's knowledge of opiates that he should be able to reason that the long-continued use of so virulent a narcotic poison as morphin in doses sufficiently large to produce the death of fifteen or twenty persons not accustomed to the use of the drug, must of necessity have produced some pathologic change in the nerve-centers. Any change from the normal must mean disease. A diseased condition is entitled to our consideration and to treatment.

I now wish to give a very brief report of some cases for the purpose of demonstrating what I have previously said.

In November, 1899, a physician in the city of Cleveland called on me and requested that I would visit his friend, a Dr. R., who had been using morphin about nine years and who had been making heroic efforts for the past six months to discontinue the use of the drug. The next day I called at the residence of Dr. R. and found that he had ceased all business for several months, giving his undivided attention to freeing himself of the morphin addiction. He was much emaciated, very weak and nervous, so much so that it required considerable effort for him to articulate distinctly. His condition would suggest complete nervous prostration. He had reduced his dose from about 20 to 25 grains per day to not more than 1 grain per day. I was unable at that time to induce him to accept any assistance in the way of treatment. He was thoroughly convinced that no system of treatment could be of any assistance for the relief of morphinism, and that the only thing was to stop taking the drug. He appeared firmly to believe that he would be able to do it within the next very few days, as he had already reduced his dose to so small an amount. He came to me for treatment about four weeks later, at which time he had increased the quantity used in twenty-four hours to about 3 grains. He was discharged cured in nine weeks. There was scarcely a day while under treatment that he did not express regret at having refused the advice of some of his friends and placed himself where he could have received the assistance necessary to restore him to health.

Mrs. D., whom I have before mentioned, came to me for treatment in the autumn of 1898. Her age was 40. She had used laudanum for seventeen years; her general health was poor; she was very nervous and irritable; she had very little appetite. However, she was able to accomplish considerable labor about the home when she used plenty of opium. She had been a woman of uncommon energy and determination. Although her family physician had advised both her and her husband, that in her feeble health, at her age and because she had used opium for so many years, it would be impossible for her to stand the suffering she would be obliged to endure to be cured of morphinism, and that as she could yet attend to many of her household duties, by continuing the use of opiates she might live in some degree of comfort for several years to come. Although this advice had a somewhat discouraging influence over her, her great desire to be free of the addiction finally decided her to at least make the effort. In her case the opiates were withdrawn very gradually, at no time to the extent of causing diarrhea, vomiting, perspiration or pain. With the exception of feeling weak and having a nervous, uneasy sensation of the legs, I think she was fully as comfortable during her entire treatment as when she took laudanum ad libitum. After returning to her home, she continued to improve in strength and flesh, and when the warm

spring weather came she lived and worked much of the time out of doors. It is now nearly a year and a half since she discontinued the opiate and her husband informs me that she is in better health than she has been before for twenty years, and that she has no need of any drugs whatever.

A Mr. B. came to me for treatment in the autumn of 1897, aged 40 years, single and much emaciated; he had chronic gastritis; his bowels were constipated; he was very despondent. He said that he had been told so many times by physicians that he could not live without some opiate, that he had little faith himself in ever getting free of it. He had used opiates sixteen years and was using 60 grains of morphin hypodermically and drinking 2 quarts of whisky during each twenty-four hours when he came to me. I withdrew the whisky within the first few days. I was between three and four months withdrawing the morphin. He remained in bed quite a large portion of the first part of his treatment. As soon as the stomach would tolerate food he was encouraged to eat all that he could of an easily digested and nutritious diet. I gave nerve, heart and general tonics, hot baths and massage. The withdrawal was so gradual that at no time was there any indication of the ordinary withdrawal symptoms. He remained with me for several weeks after taking the last dose of morphin. He left me, feeling well and strong, and I am very sure that he has never tasted liquor or used morphin since leaving my place, now over two years. His was a most desperate case, but, as is usual with a large majority of this class of cases, when they are entirely free of the necessity of the drug they recuperate very rapidly and very soon seem to attain to their full physical and mental capabilities.

There are without question large numbers of persons addicted to the use of opiates, and where physicians have not the conveniences and necessary time to give to the treatment of these cases they should be sent where they may receive proper care and treatment. We should remember that, while some of the milder cases will relapse, some of those who appear the most hopeless will remain faithful to the end, and they will become good members of society, a comfort to their families, and to themselves life will be worth the living.

In fact, I know of no disease or class of diseases for which the physician's aid is sought more satisfactory to treat, or of which the patient is more grateful to be relieved than morphinism.

900 Fairmount Street.

DISCUSSION.

DR. D. T. MILLSPAUGH, Paterson, N. J.—I wish emphatically to indorse Dr. Pressey's opinion that morphin addiction is a disease and a curable one. To those so afflicted, who are in the very depths of despair and hopelessness and ill-health, the benefits to be derived from a scientific treatment that reaches their case can not be overestimated. I would like particularly to ask Dr. Pressey what he uses to stimulate the heart, if he has any specific drug or treatment for that purpose?

DR. H. H. LEVY, Richmond—What is the meaning of the cure of the morphia habit? When do we know that we have cured a patient? I would say that in my limited experience I have seen cases which were apparently cured, in three years take up the habit again. They always allege that there is some special or unusual strain or reason why they did it, and that brings up another question: What are the causes of the original taking of morphin? How is the habit begun? That is important to the general practitioner. Are we responsible for the beginning of such a habit by the administration of an occasional dose of morphin for the relief of pain? Practically, I think we all know that we can give an opiate to a hundred patients and in one only may the habit be engendered. Has one dose of an opiate administered for the relief of pain been the true cause of this habit? My idea is, and I do not believe that I stand alone, that there is some precedent deficiency in the nervous system; that there is some lack of full strength or of control, or, we might say, an inherent weakness in the nerve cells of the brain which calls for bracing up and stimulation. I have in a few cases been able to go back to the early history of drug habitués, and have always found something occurring in childhood, for example, some long, protracted illness, which has weakened the system; and along with other organs and tissues of the body, the nervous system has suffered some detriment. I believe it is either heredity or an early acquired condition of the nervous system that leads up to the formation of this habit. Such a subject never having been called upon to take an opiate may never have started the habit, but the administration of a single dose may cause the habit to be engendered.

I desire now to allude to the treatment in Keeley institutes of morphia and cocain habitués.

If we can endorse the results obtained in the liquor habit by that system of treatment, I believe we should every one of us inveigh against its application to morphia habitués. I have, within a few months, known of two physicians, subjects of the habit, submitting themselves to treatment in a Keeley institute, and one of them made a very rapid improvement, getting completely rid of morphia; but three weeks later he was again taking the drug. It seems that there is for opium and cocain takers only the most transient help afforded by the Keeley treatment, and I think we should dissuade our patients from taking it.

DR. DUNHAM, New York—I am very much pleased with the Section. There is a field for workers in this line, and the field is not entirely outside the medical profession. Morphinism is a disease which can be cured. If they relapse, cure again. I would treat them like tonsillitis. It is possible to treat them if the general health improves after treatment. I want to report one case which is interesting, and it may help others who have had experience in the same line. It was a case of morphinism following headache for ten years. We prescribed hyoscin hydrobromate, 1/150-grain dose. This being a neurotic case, it did relapse in a year; she took it again and then relief came. She then relapsed the second time, and then remained well. I want to make another addition here, that is, disease of the brain leading to the use of a narcotic, such as morphin and liquor, and so in addition to the morphin we have a symptom of a diseased condition. We can remove the disease all very well. I offer to the Section this morning this hyoscin hydrobromate as a remedy which is valuable in all of those cases where there is a great neurotic element. They do not get using it themselves; it is really in the hands of the physician and is perfectly safe.

DR. CAMPBELL, New York—My experience has been quite extensive. I decidedly claim that morphinism is never cured, a person with the morphin habit, if we take the words of our old teacher, Dr. ——. He says that the morphin habit is never cured, and that a person who takes morphin for work can never be relied on. It is the history of criminal cases, that a morphin fiend will lie to physician, husband, wife, child and father; you can never depend on the word of one who has the morphin habit. In my experience in the city of New York, where I have seen physicians bring these morphin-habit people, I could not point my finger to one who has been cured. I have seen them cured of the whisky habit by taking the Keeley cure, and I have seen people two or three years out of the Keeley Institute with the morphin habit. I have had experience with doctors who have taken the Keeley cure, and if we could take these doctors and break their hypodermic syringes up, remove the morphin temptation, we would not have them go back for some time. Right in my neighborhood in New York to-day there are eminent men who have themselves dosed with morphin all the time and they have been in the Keeley Institute for this habit. I claim—I am sorry— I have never seen a case of morphinism cured. I am connected with the "Tombs," where we have them every day. There is not a day in the year but

there are people to whom I have to give morphin. I could cure them by "stocking" them. It is impossible to keep them there without giving them some, as high as three grains a day. I would like very much to hear the Doctor's cure.

DR. F. S. PEARCE, Philadelphia—I believe that there is a large amount of truth in what the Doctor says. I think he sees a class of morphin cases associated with degeneracy in a mild or great measure; and in those people, of course, you can not expect good results.

In private practice you will see good and bad; you will treat more of the normal type of human body. I myself in a short experience have seen four or five cases of morphia habit cured, and they have not relapsed. While we all grant that morphinomania is most difficult to treat, I feel that in an institution you get a class of cases that are on the wrong side of the fence—degenerates. This sad fact should not at all prevent us from doing our utmost toward saving the others, of whom I feel positive there are a great many more than physician or layman supposes.

DR. MCCARTHY, Philadelphia—It strikes me, with regard to the morphin habit, that there are individuals who form habits of any kind. It does not seem that there is connected with these individuals any weakness of will power, but they will form habits from time to time. They will start as children, and even the minor habits of childhood developed will become intensified. When they start using tobacco it is carried to excess, or the liquor habit, or any habit is carried to excess. In some cases there is little evidence to show that they are degenerate, but their ability to form habits. A physician is never justified in giving morphin if he informs the patient that he is getting it. In those cases of morphinism, the patients knew at the time that the doctor was giving morphin, not only that, but other drugs. The patient nowadays knows about as much as the physician does of the drugs he is taking. The patient looks at the prescription and knows all about it. I have made it a practice to tell the patient nothing about the drugs he is taking. As far as working in other drugs, they may be getting the morphin or water habit, but they never know it. I think it is a point of prevention in the morphin habit that a physician is never justified in telling the patient that he is giving the drug in any form whatsoever.

In the cure of these cases the physician regards a case of morphin cured when he stops it and bring the patient down to the point where he is not taking it. The nutrition is very poor, the weight of the individual is below normal, and there is no wonder in these cases that the patients go back to their old habits. The rational treatment is, after the patient is entirely cured, after the morphin is entirely removed, to put him on a systematic course of rest-treatment, a building-up treatment.

DR. A. J. PRESSEY, Cleveland—What do I do to stimulate the heart, I am asked. I use strychnin all through the treatment, as a rule. I give small doses, about four times a day, generally, If they need further stimulants for the heart, I prefer nitroglycerin. Digitalin, if continued, causes nausea and disturbs digestion.

What is a cure? A cure for morphinism is exactly what a cure for pneumonia or tonsillitis or any ordinary disease is. When the patient is well and free of the desire for morphin, and no other drugs are required to make him comfortable, he is cured of morphinism. He is as much cured if he should return to the use of it in a month as he would be if he never returned to the use of it. It is not right to say that a person was not cured because he began the use of it again in a month or a year. If you treat a case of pneumonia and the man is well, you would not say he was not cured because he had pneumonia again the next year.

What is the cause of the habit? The causes are many, almost innumerable. Among morphin-users there are many degenerates, persons who seem to require a narcotic to make them feel in a normal condition. If such a person gets a hypodermic of morphin and knows what he has taken, he is very apt to become addicted to the use of it. Very many physicians contract the habit through overwork, or trying to work while suffering physical pain, taking an occasional hypodermic to relieve them in order to be able to continue their work. Patients while suffering from some painful ailment receive some hypodermic and unfortunately find out that it was morphin, and later have other excuses that they may have more morphin. Physicians should never allow patients to know what they are taking, and especially is this true when narcotics are given.

My friend here of the "Tombs," who believes that morphinism is never cured, does not see the favorable class of patients for treatment. Those that appear at the "Tombs" are largely of a degenerate class, and those who have relapsed perhaps repeatedly. No one would expect many, if any, of these could be cured.

As to the reliability of their word, I believe that the majority of the better class of morphin patients will be truthful in regard to all things except the subject of morphin. I believe that I know plenty of persons who use and those who have used morphin whose evidence I would accept in court as soon as that of a person who had never used the drug, but not their word on the subject of morphin.

Then he spoke of curing them by forcing the drug away from them. I have had considerable experience with persons who had been treated in that way, and have never seen a person so treated but soon relapsed. I do not doubt that some have been cured and remained cured, but I do think it is a cruel and inhuman thing to do. Where there is such a violent shock to the nervous system as there must be to produce so severe symptoms as result from sudden withdrawal, nature comes very slowly to the rescue and full recovery is delayed for a long time. I know that many relapse after my treatment. I have one case that I have treated four times. He is a successful physician and does good work, and never relapses until months after he has been cured and at work, and when there seems no excuse whatever for taking morphin.

The treatment must vary according to the conditions of the different patients. While the pathology of morphinism is unknown, we do know that we have a diseased nervous system to deal with, and as we do not know just what that altered condition is, we can not treat it to the best possible advantage, but we can give nerve tonics, try to correct the circulation, and in that way improve nutrition. We know that when the morphin is much reduced the heart becomes very rapid and weak, and that we must support that organ to the best of our ability. Then I try to improve the general health by giving tonics and a good diet. Also, I try to encourage as much sleep as possible. I succeed in keeping my patients in a fairly comfortable condition all the time during treatment by the method I use in reducing the morphin. I have patients come to me taking all the way from 1 to 120 grains of morphin, and in every case—whether taking the smaller or the larger dose—they are taking more than they require to make them comfortable. This surplus I withdraw at once. No one can tell how much that is except as they find out by trying smaller and smaller doses. If I get the dose too small, I increase it until I find the smallest dose that he can use and be nearly comfortable. I then continue him on that dose for one, two, or three days until he has been built up to where he will be very comfortable, then reduce to a smaller dose very gradually. Continue in this way until he is taking so small a dose that he does not know when the last particle is withdrawn. The last amount is seldom larger than 1/120 of a grain, and often much less. I sometimes find patients that I am unable to keep as comfortable as others and reduce them, then I give them a good full dose of morphin, make them perfectly comfortable and afterward put them on a reduced dose for two or three days, or as long as they will tolerate it, then give another full dose, when they can be again reduced. In some cases I have used the rest treatment, sometimes massage, and frequently hot baths.

I find it very difficult to keep patients under treatment as long as they should be after the morphin is withdrawn. A large portion of my patients are physicians, and they are always anxious to get home to their work as soon as possible. No person should go to work until he is well and strong, and has had an opportunity to regain some strength of mind and character. A change of scene and thought would be greatly to their advantage.

SYPHILITIC LOCOLOSIS ALVEOLARIS.*

PYORRHEA ALVEOLARIS.

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For more than twenty years I have given this subject close attention, not only with a view to its cure, but to ascertain the etiology of this disease, which is generally regarded as incurable.

Dr. Farrar says: "I believe locolosis alveolaris is a disease of the peridental membrane aggravated by calcareous deposits on the teeth, which increases the inflammation so greatly that decalcification of the alveolar tissue results, and when this state exists the advance of locolosis increases more rapidly until nature makes a serious effort to expel the tooth, and if successful, the disease subsides and is lost from view. When all the teeth are lost locolosis ceases to be observed, showing that whatever the cause of the socket disease it does not reappear elsewhere."

In an article, "Some Suggestions on the Treatment of Pyorrhea Alveolaris," [1] published last year, I gave my views in regard to its treatment. I propose now to give some of my views on the causes of this old and destructive disease.

Up to about twelve years ago, I had treated several hundred cases of what I then supposed to be pyorrhea alveolaris. But in the light of our later knowledge I am of the opinion that only recurring cases were worthy of that appellation. At that time I boldly resorted to all methods then in vogue, and freely referred my cases in consultation to those whom—from their writings—I believed to know most on the subject. Degeneracy, due to uric acid, and rheumatism were suggested, and as I found the rheumatic and gouty tendency in patients having the disease I inclined to accept these as causes, if not *the* causes. But later, when the treatment did not effectually suppress the disease, I was satisfied there must be something else behind it all which should be learned. Reviewing the history of many of the most obstinate cases, I found that in several I could trace syphilitic association. Believing much information might be gained I followed this trail and have continued so doing from that time. It was difficult to secure sufficient data, however, by which I could prove scientifically that which I suspected, for, as we all know, syphilis has such an insidious undermining effect, and patients are generally so unwilling to admit facts, that the study has many discouraging aspects. It is, however, my opinion that this disease does not show itself only in those persons who have contracted it, but may also be found in the mother as well as her offspring. It was in these cases that I found locolosis or pyorrhea alveolaris to be so well defined that I felt encouraged. But obstacles arose which retarded my speedily reaching a definite conclusion.

It was my hope at this time that I might gain something by turning these cases over to specialists in syphilis, gout, and rheumatism for treatment, but the varied results led to suspicion, and to caution in speech, until I could get sufficient verified data to act more intelligently. In many cases I found that treatment had not been continued sufficiently to eradicate the specific poison, or the secondary effects thereof.

In 1890 I had an opportunity to study blood, and then it was, that I became convinced that the usual method of its physiologic study was inadequate. I now believe the blood carries with it the active principles of most, if not all, disease. Then the generally accepted plan for the examination of blood was through dry and stained specimens. Even to-day that plan is largely followed. Could any but the most tenacious germs stand the baking process which is claimed to be unavoidable? Not only are such specimens exposed to the oxidizing influence of the atmosphere, but to heat of such a temperature that it is injurious to them. It may be said that only the survival of the fittest can furnish the possible opportunity of study, and then they can be recognized only after a course of staining that decorates them in "war paint," chiefs of their tribe.

Kircher,[2] in 1695, claimed the disease to be due to living organisms, but it was not until 1772 that Lostörfér claimed to be able to distinguish by microscopic examination of the blood, the presence of syphilis and other diseases. In 1890 Watkins, after studying various methods of blood preparation, came to the conclusion and published the fact that there was only one method of scientifically examining the blood, namely, doing it in its fresh state, and before any changes had taken place. He also found that by instantaneous photographing of fresh blood, objects which would otherwise be overlooked were revealed and permanently recorded, showing facts that the dry and stained specimens failed to do.

In 1892 my attention was called to Dr. Watkins' method, and it so favorably impressed me that I have since devoted considerable time to it, and now I am so convinced that it is the only road to an accurate diagnosis of disease, that I am still continuing the accumulation of data, with more or less satisfaction, having for my chief guide a sign in the mouth, which I first observed many years ago, but the importance of which I then failed to appreciate. This sign, which I denominate "egg-skin eschar," I find upon the mucous membrane extending along the ramus and the buccal surface of the gums along the molars. Occasionally it is to be found upon the cheek, near Steno's duct and the angle of the mouth. But I will not dwell upon this point, as I referred to it in the discussion of my article above alluded to.

In the early treatment of this disease, when I found the eschar present, as it was in many cases, I learned to associate it with some obstinate forms. Five years ago I began sending patients to Dr. Robert L. Watkins, of New York City, for blood examination, with the view of ascertaining what existed. This I did without giving Dr. Watkins the history of the case. The examination of more than one hundred cases revealed strong evidences of syphilis, and in every instance when the egg-skin eschar was found the blood showed unmistakable proofs of the taint; in fact, in every case where the blood showed this the egg-skin eschar was present. Dr. Watkins has repeatedly pointed out to me the syphilitic spore. Yet I must admit that the majority of my patients declared that there was no foundation for the suspicion of the disease. But when they received treatment for it they were cured. Although some patients were honest in not knowing the history of their trouble, others did finally remember that they had contracted the disease, and others still acknowledged it at once.

So confident do I feel that my views are correct, that I now treat all cases of this kind with antisyphilitic remedies, and I find that a large percentage of them are beneficial. In several cases I have been misled, and diagnosed

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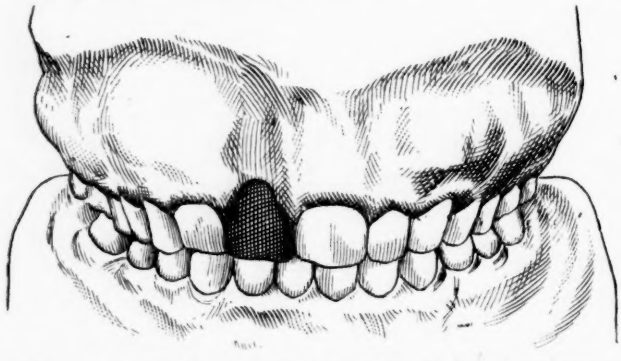
1 N. Y. Med. Jour., Jan. 14, 1899.

2. Von Ziemssen: Prac. of Med. vol. III, p. 40.

suppurative gingivitis as pyorrhea alveolaris. This I did because I could not find the egg-skin eschar, and when the blood was examined and seemed to substantiate my suspicions I refrained from giving specific treatment. To settle the question, I placed several patients suffering from suppurative gingivitis under specific treatment. This caused such unfavorable symptoms that I was soon forced to abandon it. In one case, where the alveolar process on the palatal surface of the teeth was nearly destroyed, and where it was practically in a normal condition on the buccal and labial surfaces, I was puzzled to know why this affection was not general. When septic pulps, salivary calculi and syphilis were excluded I concluded the trouble to be caused by the pressure from a vulcanite plate, to which was attached an artificial velum that had been worn twenty years.

In another case, the cast of which I have here, the disease was extreme in character. There was great destruction of the interdental process, accompanied by a discharge of pus. Many of the teeth could readily be forced by the finger ⅛ inch farther into the socket. A tumor, osseous in character, extended along nearly the entire length of the alveolar process on the buccal and labial surfaces of the upper alveolar ridge. There was, however, a break in the line of the tumor between the right central and right lateral incisor. The right central incisor had been extracted several years earlier. In this space was an artificial crown, attached to a small bridge-piece, as indicated on the cast.



The cast of the lower jaw showed by the hypertrophied condition of the gum, the extent of the pocket. At first this patient persistently denied ever having syphilis, but the evidence of it was proved by examination of the blood. After I had gained the confidence of the patient, however, he admitted that he had contracted the disease a dozen years before, but had been under treatment for it. He gave as a reason for denying the fact that he did not wish it known to any one except his physician, who had positively stated that he was absolutely cured. The patient now returned to this physician, told him my views as to the cause of the tumefaction, and telling him I said he was still suffering from the taint. The physician made light of the diagnosis, and persuaded the patient not to return to me.

I regret not having an opportunity to finish the treatment of this case, as it would have been an excellent support to my belief that this class of tumors is the result of this dreadful poison.

It is fair to state, however, that within a year the health of the patient so completely failed that he was advised to visit the hot springs for syphilitic treatment.

Where rheumatism is found to be present in a large percentage of cases, I believe it to be a coincidence, though not the cause. I believe that syphilis so reduces the resisting power of the constitution that rheumatism more easily steps in, much the same way that it may while the system is under any degenerating influence. I do not wish it understood that I believe pyorrhea alveolaris exists in every case of syphilis, nor that syphilis is found in every case of pyorrhea. But what I do believe is that some form of syphilis may exist in nearly all obstinate cases of pyorrhea alveolaris that can not otherwise be proved. As proof of the condition I mention, such cases do get well, and remain so when placed under specific treatment until all signs of syphilis cease to appear, not only outwardly, but when the blood fails to show any evidence of it whatever. The value of blood examination, which tells when to commence treatment and when to cease treatment, in this, as in some other diseases, is evident. I also regard it to be of great importance in diagnosing remote causes. Indeed, I predict that the time is not far off when examination of the fresh specimen of the blood will be the principal evidence in proper diagnosis. I have sometimes thought that locolosis or pyorrhea alveolaris may be caused by mercurial poison, but investigation does not bear out this surmise, for I have found this disease where there has been no history of mercury given.

Is it not, therefore, reasonable to conclude that this form of the disease is aggravated, if not caused, by tertiary syphilis?

7 West Fifty-eighth Street.

[Discussion of the Symposium of which this paper is a part will appear after the last paper, next week.]

NEUROTIC AFFECTIONS OF INTERSTITIAL GINGIVITIS.*

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The chief function of the nervous system, beside its special function, is that of regulating growth and repair. This function, as Marinesco points out, resides even in the neuron or nerve unit. While this function of regulating growth and repair is often connected with control of the vasomotor system, still, as Collins remarks, there are trophoneuroses in which there are no appreciable vasomotor disturbances, and there are any amount of vasomotor disturbances which are in no sense connected with disturbances of nutrition. The nerves regulating growth and repair are called trophic nerves, and the conditions produced by anomalies of their action are, as already stated, called trophoneuroses. It was in the domain of bone growth that anomalies of the function of the trophic nerves were first observed. Brown-Séquard pointed out certain anomalies in the joints of locomotor ataxics; later similar disturbances were observed in the jaws of patients with this disease. Another great neurosis, paretic dementia, presented similar trophic disturbances, as I pointed out twenty-two years ago.[1] Among these trophoneuroses was one characterized by looseness and falling out of the teeth, alveolar resorption, gingival ulceration and perforation, with, at times, maxillary necrosis. This condition had long been recognized by alienists and neurologists as causing that fall of the teeth which occurs in paretic dementia and locomotor ataxia. As E. S. Talbot[2] remarks, this function of the trophic nerves, however, received but little attention from dentists, albeit its influence has been recognized in dental pathology, in connection with the great neuroses in which gum disorder occurs, followed by loosening of the teeth.

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Cases illustrative of this condition have lately been described by Drs. Rawl, Baudet[3] and Chagnon.[4] The case of Dr. Chagnon was that of a man aged 34, who, about ten years previous to coming under his care, had contracted syphilis. Two years later he married and had healthy children. In June, 1895, he was admitted to an insane hospital under intense maniacal excitement, which subsided to give place to the usual symptoms of paretic dementia. The psychosis followed its course without any remarkable incident until about September, 1897. At this time Dr. Chagnon found that the two incisors, the canine, two premolars and the first molar of the left upper maxillary were very loose. The teeth on being picked out were absolutely sound. The ulceration which affected the surface of the alveoli following the loss of the teeth did not heal. About the middle of September a sequestrum, in which the work of alveolar resorption was not much advanced, became detached. The palate roof forming the anterior border of the maxillary sinus was part of the sequestrum. Two months later the ulceration had healed. In June, 1899, when Dr. Chagnon reported this case to the Quebec Medico-Psychologic Society, all the teeth in the lower jaw were sound. The two premolars and the right canine of the upper jaw were decayed. The second and third left molars as well as the first right molar were loose, but perfectly sound. There existed no alveolar pyorrhea; neither did any trace of ulceration appear, except a small opening which would not admit a probe.

Conditions like this may occur not only from constitutional neuroses, but from disturbances of the cranial and spinal nerves as well. They are frequently noticed after injuries to these nerves, but they may also occur as a consequence of the great functional neuroses like epilepsy, neurasthenia and hysteria. Their part in dental pathology is two-fold; they may cause an interstitial gingivitis, which pursues its course without bacterial infection, or they may so weaken the strength of the jaws and gums as to make these into an excellent culture-medium for pyogenic microbes. In dealing, therefore, with the question of treatment, the trophic factor should be taken into consideration, more especially as the structures involved, since they are of a transitory type, are peculiarly liable to its operation.

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[Discussion of the Symposium of which this paper is a part will appear after the last paper, next week.]

INTERSTITIAL GINGIVITIS FROM INDIGESTION AUTOINTOXICATION.*

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In my work upon "Interstitial Gingivitis or So-called Pyorrhea Alveolaris," I divided the etiology into exciting and predisposing, and, again, into local and constitutional causes.

In my article published this year,[1] I discussed one form of the constitutional variety under the heading, "Interstitial Gingivitis Due to Autointoxication." This subject was discussed in a general way. Albu's classification of autointoxication was accepted:

1. Autointoxications from the suppression or disturbance of the functions of an organ, e. g., autointoxication of thyroid gland, pancreas, liver, suprarenal capsules, producing myxedema, diabetes, acute yellow atrophy and Addison's disease. 2. Autointoxications which occur from anomalies in general metabolism without definite localization, such as rheumatism, gout and oxaluria. 3. Autointoxications which are caused by the retention of the physiologic products of metabolism in different organs, such as poisoning due to extensive destruction of the skin by burning, carbolic-acid poisoning, uremia and eclampsia. 4. Autointoxications due to the overproduction of physiologic and pathologic products of the organism, such as ammoniemia, acetonuria, diaceturia, diabetic coma, etc. The most frequent source of this intoxication is the gastrointestinal tract. In this paper I propose to discuss the phase of autointoxication due to indigestion or disturbance of the gastrointestinal tract.

Autointoxication, like all intoxications, comprehends, as W. A. Evans has said: 1, production of the intoxicant; 2, absorption thereof; 3, reaction thereto. These three are embraced when autointoxication is spoken of, which is poisoning of an organism with matter produced by itself. Assimilation, or the making of tissue, is the passing of the simple into the complex, stability into instability, with the storing of the energy. This instability is a necessity of life. Disassimilation, divided into two divisions—death and energy—the last being a modification of death, is the passing of the complex to the simple; the unstable to the stable, with the liberation of the energy.

In the building-up process, the unused portions of the absorbed foods may produce autointoxication. In the breaking-up process, the ash can produce autointoxication. So long as these two processes, tissue-building and tissue-waste, are normal, intoxication can only ensue from faulty action of the destroying organs, of which the liver is the chief, or of the eliminating organs, of which the kidney is a type. This constitutes the first group, those due to faulty elimination. It applies to food-remnants and to tissue-waste, both normal and pathologic.

The second group is due to errors in cell-life. It occurs under three subtypes: 1, by some reason food elements are left unused; 2, the ash from food-burning is unusually toxic or unusually difficult to absorb; 3, the secretion of the cells is toxic.

While it may be stated in accordance with the principles just laid down that, considered from the direct standpoint of the production in the body, there can be no bacteriology of autointoxication; still it must be admitted that it produces culture-mediums in the body which would not otherwise exist and which enhance the virulency of the microbe, and hence increase the toxicity of its ptomain. Indirectly, therefore, autointoxication must be considered a factor in bacterial action. In dealing with the general question of autointoxication it should be remembered that when proteids are placed under the action of gastric and pancreatic juice they are changed into a hemi- and an anti-group. The anti-group is, as J. A. Wesener points out, broken down into antialbumose and a small quantity of antipeptone. This latter is a stable body which does not yield to the digestive juices or even to diluted sulphuric and hydrochloric acids. It is absorbed by the small intestine, but does not replace any waste of the used-up proteid of the body. Antialbumose is changed to serum albumin and is the one that furnished the body with its proteid food. The albumose, when injected subcutaneously,

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1 The International Dental Journal, February, 1900.

causes death; the blood fails to coagulate, by reason of the fact that the lime salts are precipitated by this body. If for any reason the epithelium of the intestine fails to perform its functions of changing this body into serum albumin, toxic symptoms will arise.

While uric acid is charged with being the chief factor in autointoxication, its importance has been overestimated. It is a thermometer of the extent of autointoxication rather than its chief factor. Recent investigations, as J. A. Wesener remarks, show that uric acid represents the metabolism of the nucleins of the body, and is in no way related to the albumins taken in as foods, for these last bodies of the group are very poisonous. The necrosis arises as follows: The leucocytes break down easily because the carbon dioxid remains too long in the tissue spaces; the nucleinic acid which is liberated in this way attacks the connective tissue, etc., irritates it, and this forms a good basis for destruction of nucleins.

A factor in autointoxication is non-performance of the process of elimination by the various excretory organs. In the urine alone, as Bouchard has shown, there are present each day, sufficient toxins in a normal individual to cause death if not excreted. This condition is notoriously increased after prolonged nervous explosions like those of epilepsy or hysteria. This was pointed out 30 years ago by Meynert, who showed that the status epilepticus or condition of repeated convulsions was due to accumulation of a proteid or nitrogenous body in the system. This status epilepticus is preceded by an increased amount. The same is true as to the influence of non-elimination from the excretory organs—the bowels, lungs and oral cavity—as well as the non-exercise of its poison-destroying powers by the liver. The non-elimination factor, moreover, interferes with ordinary digestive functions, and hence increases its own extent. The other factor in autointoxication is the production of toxic products in such quantity as to prevent their destruction by organs like the liver and consequent elimination, since a product to be properly eliminated must be reduced to a certain chemical type.

Autointoxication of the gastrointestinal tract takes place during any period in the life of the individual. Especially is this true in degenerates, in disease and in later pregnancy. In these states the eliminating organs do not perform their functions. The amount of bile excreted is an important factor in aiding digestion: 1, It is a solvent, a large amount being necessary; 2, it is an alkaline substance, producing alkalinity of food after it leaves the stomach, thus aiding the pancreatic and intestinal juices to neutralize the acidity of the chyme; 3, a purgative, its presence in the intestine stimulates the peristaltic action; 4, it is an antiseptic, thus preventing the growth of bacteria; 5, its alkalinity causes the emulsification of fats; 6, it assists absorption; Pavy's experiments have shown that moistening an animal membrane with bile accelerates osmosis; 7, when excreted in large quantities bile passes through the intestinal tract, coloring the feces.

The pancreatic juice is likewise an important factor in digestion. It is coagulated readily, being rich in albumin. Owing to its alkalinity, when brought in contact with chyme containing gastric juice, it neutralizes the latter's acidity. Kuhn, Chittenden and others have shown that pancreatin is made up of two or three ferments, each having an individual action: 1, It mixes with the bile, causing emulsification of fats; 2, trypsin, which is analogous to pepsin, acts in neutral or slightly acid solution; 3, amylopsin or diastase, which resembles ptyalin, is more powerful than the other two, and converts the remaining starch into maltose. This, however, is aided by the previous action of ptyalin converting the starch into dextrin. It will be seen, therefore, that secretions of the liver and pancreas prepare the food for absorption after it has left the stomach.

Stockton, Elsmer, Boas, Ewald and others have shown that indigestion may be due to the following: 1. Disorders of the senses of smell and taste; 2, insufficient mastication; 3, alteration of saliva in quantity or quality; 4, absence or excess of hydrochloric acid, absence of pepsin, insufficient muscular power; excess of lactic acid in the stomach; 5, alteration in the biliary or pancreatic secretions; 6, excessive motility or torpidity of intestinal muscles, together with abnormal fermentative processes; 7, torpidity of the liver; 8, general poisoning, toxic influences; 9, altered blood-supply, in amount or quality; 10, nervous irritation, causing some of the symptoms of any of the above conditions. The influence of emotional states in the secreting process, and thereby directly on autointoxication, is illustrated in the fact long ago pointed out by Tuke, that pleasurable emotions increase the amount of gastric juice secreted, the opposite effects being produced by depressing passions.

As Bichat showed decades ago, sudden emotion may produce marked effects on the secretion of bile, and occasion jaundice. Cases are far from infrequent where emotions like jealousy produce mimicry of gall-stone colic in neuropathic individuals. Murchison, Christison and Thompson have traced attacks of biliary colic to jealousy. I have a number of patients in whom grief, worry from family or business troubles and overwork have caused such mental depression as to interfere with the excretory functions of the eliminating organs, and thus produce indigestion autointoxication.

Other liver changes from sudden nervous disturbances, whether of a mental type or not, are not rare. As mental impressions are communicated to the central nervous system purely through mechanical changes in the nerves, such influence must be purely material in operation. As the brain exercises a checking influence on the operations of the liver it is obvious that these mental influences can produce two effects: 1, The mental shock might increase the checking action of the central nervous system on the local ganglia of the liver; 2, the mental shock might destroy the checking action on the liver ganglia, and in consequence these may work too fast and exhaust themselves. Either of these two conditions would interfere with a poison-destroyed action of the liver, and accumulation of waste products would be the result. What is true of the liver is true of the other organs.

No one condition will so change and affect the secretions of the body as to produce autointoxication to such an extent as extremes in temperature. These sudden changes have been most marked in Chicago in the past winter. A change in temperature from 20 to 45 degrees in twelve to twenty-four hours was not uncommon. The result is that trophic changes and metabolic action were most marked. It was with difficulty that the excretory organs, especially the liver, pancreas, skin and kidneys, could adjust themselves in many cases to the freaks of temperature, as the result of which autointoxication was very noticeable, especially in those persons over 30 years of age and those who were suffering from previous indisposition. Sick headache, dizziness, indigestion, a sense of fullness, itching of the skin, eruptions, inflammation of the mucous membrane of the mouth and

gums, peeling of the fingers and odor in the axillæ and groins are quite common.

In healthy people a natural movement of the bowels every day may take place and yet decomposing food may be retained in the small intestine. It is not known that the bile prevents decomposition. If, as is frequently the case in degenerates, the liver and gall-bladder are not large enough, or, if in disease, a sufficient quantity of bile is not secreted, fermentation will take place. Again, one may eat more nitrogenous food than can be digested, or than can be taken care of by the bile, in which case decomposition will ensue. After one has obtained his growth this is not infrequently the condition. When fermentation and decomposition of the carbohydrates take place we have the various fatty acids produced. When the albuminous substances decompose, ammonia, sulphuretted hydrogen, indol and skatol, leucin and tyrosin are found. Aaron and others have demonstrated that ptomains and toxins are constantly found in the intestinal canal owing to bacterial action. In many people, fruits, cooked, as well as uncooked, will produce fermentation in the stomach and intestines, thus producing the most violent forms of autointoxication.

It is claimed that the symptoms of autointoxication are manifested, first, in the nervous system; next, in the circulatory; then in the tegumentary and, finally, in the kidneys. From my own studies, one of the first symptoms, I believe, is—especially in the young—sick headache. The relief which follows a thorough evacuation of the bowels is a familiar phenomenon. Some more marked psychic symptoms are depression of spirits, cranky notions, distaste for society and melancholia. In most cases of autointoxication or dyspepsia, as these cases are called, neurasthenia results. In the neurasthenic condition, the skin and mucous-membrane poisoning occurs. The most common of these is urticaria or hives, after eating lobsters and other shell-fish, or strawberries, or after the use of tobacco.

The mucous membrane throughout the alimentary canal, especially that of the mouth, is frequently involved. Changes in secretions, thickening of the mucous membrane, and, finally, inflammation of the gums and alveolar processes are noticed. I have called this interstitial gingivitis. So sensitive are the alveolar processes, gums and mucous membrane, owing to their transitory nature, that their inflammation and absorption might be considered one of the first, if not the first, symptom of autointoxication. Two predisposing factors assist greatly in influencing the disease: previous inflammation and age. When the gums have once become affected by drugs or other causes, indigestion, by producing autointoxication, will quickly set up irritation and inflammation.

People over 30 years of age, especially those of sedentary habits, do not require either an excessive nitrogenous or starchy diet. In such cases the food is not digested, and ptomain poisoning results. Autointoxication with gum and alveolar-process inflammation and absorption takes place.

[Discussion of the Symposium of which this paper is a part will appear after the last paper, next week.]

South African Hospitals.—Evidence taken on the opening day of the Commission on the South African Hospitals pointed out the efficient method in which the army medical service was conducted. A varied array of witnesses from medical, military, and civil life were unanimously in favor of the completeness of the medical arrangements. A full report is given in the *British Med. Journal* of August 4.

THE THERAPEUTIC USES OF THE THYMUS GLAND.*

SOLOMON SOLIS-COHEN, M.D.

PHILADELPHIA.

Mr. President and Gentlemen:—It is always a pleasure to meet my colleagues of the New York County Medical Association. I only regret that what I have to offer for your consideration is not very satisfactory. If at the close of my remarks you shall think that they have been vague and inconclusive, even contradictory, I shall have left on your minds a truthful picture of the state of our knowledge concerning the subject on which you have honored me by asking me to address you.

It has long been known that children are liable to sudden death, attributed in some mysterious way to enlargement of the thymus gland. Authors have written learnedly on the subject, explaining, or rather failing to explain, these cases. In his classic study on diseases of the thymus gland, your honored fellow-townsman, Dr. A. Jacobi,[1] points out how a slight increase in bulk of the tissues occupying the comparatively small space of the mediastinum may produce fatal compression of the trachea.[2] But why should the thymus suddenly enlarge to this fatal point? Some writers attribute the symptoms of thymic asthma to toxemia, whether from hyperthymization or hypothymization. But, again, why this sudden change in the secretory activity of the gland?

Whether these cases are really examples of disease of the thymus or of an unfortunate effort of nature to overcome some other disease, I, at least, do not know. The function of the gland will have to be better known before we can decide; and until we know both the physiology and pathology of the organ better than we now do, we shall lack a sure basis for thymic therapy.

Clinically, too, we are confronted with the contradictory reports of equally competent observers upon the therapeutic action of the thymus gland in various cases of disease. One reason for this is to be found in the very varying nature of the preparations administered. In the beginning the fresh glands of recently slaughtered animals were used. Later, commercial preparations, desiccated powders, tablets, glycerin extracts and solid extracts have been employed.

I wrote to the leading manufacturers of America and England in order to get some idea of the manner in which the preparations on the market are made. Messrs. Burroughs & Wellcome, to my surprise, excused themselves from replying to my query. Messrs. Parke, Davis and Company said they used only the glands from sheep, usually young ones, such as the butchers sell for lamb. Messrs. Armour and Company said that the glands were taken from calves, 3 to 4 weeks old, after these animals had passed the government inspection. Neither of these houses mixes the glands of different kinds of animals. They both courteously and fully described their process of selection and desiccation. The Phospho-Albumen Company replied that they used the thymus gland from young lambs (young sheep) only, and described the process by which they make an extract instead of a desiccated preparation. These three American preparations, as we see, differ from each other either as to the source or method of preparation. If we could have the active agent or agents, our therapy would be more scientific and our observations more definite.

The dose of thymus preparations at present, is

*Address to the New York County Medical Association, May 21, 1900.

"enough." Small doses are best, at first, given tentatively, to determine individual reaction and tolerance, but I have seen no bad result from very large doses. The raw or slightly cooked glands have been given in quantities of one-half ounce or more, in single or divided doses, daily or thrice weekly or less often. Of the commercial powders and tablets I have given from 5 to 90 grains daily. To get and keep good results the medicament should be given persistently for long periods.

Its application is not to accidents, such as infections, but to affections of metabolism; and chronic diseases must receive chronic treatment.

Thymus therapy is due, in a measure, to a butcher's happy ignorance.

Mr. David Owen,[3] of Manchester, England, administered, as he thought, large doses of thyroid gland to a patient with exophthalmic goiter, and recovery ensued. As a rule, thyroid feeding injures such patients, though I have myself observed and reported one of the exceptions to this rule on record. At the instance of Dr. Hector Mackenzie, who observed that the quantity of gland substance given by Mr. Owen would require several thyroids, further inquiries were made, and it was found that the butcher had been furnishing thymus—"neck sweetbread"—instead of thyroid gland.

Mr. Owen then deliberately began the use of the thymus gland from the calf. In one of his cases which did not improve, it was found that the thymus gland furnished was from the sheep, and on the substitution of calves' thymus glands, improvement began. The good effects noted were greater or less reduction of the thyroid tumor, great reduction of the tachycardia, and control of the nervous symptoms, together with improvement of the general nutrition.

Another British observer, Mr. Todd,[4] has published a noteworthy case, with sphygmographic tracings and pulse chart absolutely convincing. The case was one of severe exophthalmic goiter, in which rest and all of the approved drugs had been used, notwithstanding which the cardiac symptoms became steadily worse. This patient had finally recovered under the administration of fresh thymus gland from the calf. I call attention to this particular case as one which entirely meets the criticisms of Dr. Hector Mackenzie, of London, Dr. Kinnicutt,[6] of your city, Dr. Parker,[7] of London, and other good observers who have used thymus gland in exophthalmic goiter without noting special benefit; while Watson Williams'[8] patient was apparently made worse by the treatment.

Parker's patients, however, professed to feel much better from the medication, despite the lack of objective improvement. Furthermore, many competent and experienced physicians, in Europe and America—Mikulicz[9] Cunningham,[10] Edes,[11] McKie,[12] Maude,[13] Reinbach,[14] and others—have had favorable results that are not to be attributed either to suggestion or to the well-known tendency of Graves' disease to spontaneous improvement or recession. I have elsewhere published my own[15] good results with the use of thymus gland in the treatment of exophthalmic goiter. Its effect is especially marked upon the nervous symptoms, but Todd's case illustrates its power over the heart, and Mikulicz, Bruns[16] and others have shown its influence upon goiter, both in connection with and apart from Graves' disease. Upon the proptosis its effect is perhaps least.

Recently I suspended the use of thymus gland in this disease, not because it did not give good results, but because the adrenal substance promised even better ones. I have found, however, that some cases present symptoms that can be controlled by thymus gland and not by adrenal gland, while others present symptoms that can be controlled by adrenal but not by thymus. A combination of the two has thus seemed to me better than the use of either alone; but I have not yet had a sufficient number of cases treated in this way for a long enough time to warrant reporting them or drawing conclusions. At one time I thought that adrenal produced less effect upon the goiter, more upon the heart, than thymus; but in other cases the reverse has been noted. The puzzling pathology of exophthalmic goiter gives us no help in theorizing, and empirically this adds but one more to the contradictory observations.

Physiologists do not give us much help as yet as to the nature of the active principle of the thymus gland, or as to its function in the human body. Foster[17] says that from the gland a proteid-like globulin may be extracted, which seems to have some special relation to the formation of fibrin. When injected into the veins it gives rise to extensive vascular clotting. The thymus gland is rich in extractives—xanthin, hypoxanthin, leucin, lactic, succinic and other acids have been found in it. "Its chief function," he states, "seems to be associated with events taking place before birth, or in early life."

Beard[18] has recently revived the hypothesis of Kölliker that the thymus gland is concerned in the production of leucocytes. His argument is founded on observations made on the smooth skate—*Raia batis*—which seemed to show that the earliest production of leucocytes was in that sac developed from the primitive branchial arch, which later on becomes the thymus gland. These cells he believes to be the parents of all the glandular structures. Cases have been reported in which the enlargement of the thymus gland has been associated with leukemia or hyperleucocytosis. These are of many kinds. In some cases tumors, genuine sarcomata are found;[19] in other cases vague hyperplasias, perhaps associated with general lymphatic enlargements, as in the status lymphaticus. In acute leukemia[20] and Hodgkins' disease there have been found tumors of the thymus gland, some of which have been reported as sarcomata, but which later observation seems to have demonstrated to be collections of cells resembling in their nature and arrangement such a process as would be expected from a revival of the involuted thymus.

In exophthalmic goiter the thymus gland is frequently found to be enlarged at death.[21] Owen looks upon this as a compensatory revival. It is also found to be enlarged in acromegaly and in pulmonary hypertrophic osteoarthropathy; perhaps similarly in an effort of nature (reaction) to restore by supplement or antagonism a disturbed metabolic balance.

A number of cases of epilepsy[22] with mania have been reported in which the thymus gland has been found enlarged at death. These cases are supposed to indicate some toxic properties of the excessive thymus secretion, and are thus associated with thymic asthma. But the evidence is susceptible of other interpretation.

Removal of the thymus gland has been attempted by some observers, with contradictory results.

The thymus gland is found to be a necessary organ in the frog, but less so in dogs.

I quote from Norton's[23] excellent summary, verified by reference to his sources.

Tarrelli[24] extirpated the gland from dogs, with the following results:

1. No dog died of the operation.

2. Dogs showed a great voracity, but grew less than dogs in normal condition.

3. The blood showed a diminution of red-cells and hemoglobin, but an increase of leucocytes, which kept on increasing from one to one and a half months after operation; it showed also the presence of eosinophiles.

4. Dogs showed loss of strength four months after the operation.

5. Dogs' hair did not grow as well as in unoperated dogs; it lost its brilliancy, became very rough, and fell out easily.

The author draws no conclusions as to the action of the gland from these cases.

Abelous and Billard,[25] working together on frogs, give the following summary of their experiments:

1. The thymus in the frog is an indispensable organ for life.

2. Its total ablation is followed by severe troubles: *a*, dynamic—weakness, paresis, paralysis; *b*, trophic, discoloration of the skin, cutaneous ulcerations; *c*, alterations in the blood—hydremia, edema, hemorrhages, changes in the corpuscles.

3. Ablation of one thymus does not induce death.

4. We believe that frogs deprived of the thymus die of a true autointoxication, as is shown by the manifest toxicity of their secretions, when injected into frogs lately operated upon.

5. Subcutaneous insertion of the thymus does not prolong life materially, though it may restore the normal color of the skin.

6. Injection of a thymus extract from cattle into frogs causes an augmentation of the excito-reflex power of the spinal cord; at the same time the color of the skin becomes markedly darker, and if discoloration has commenced, the frog takes on its natural color. The effect of these injections seems then to present a true antagonism to the troubles which follow the extirpation of the thymus.

"It is Svehla,[26] however, who has up to the present time done the best experimental work with the thymus gland. He worked with a watery extract of human glands, as well as with glands from other animals. He states that intravenous injection of the thymal extract from man, cattle, dog, and pig, causes in dogs:

"1. A lowering of the blood-pressure, following weakness or paralysis of the vasoconstrictors.

"2. An acceleration of the pulse, due to a direct influence on the heart.

"3. In large doses it causes death of the animal, with appearance of restlessness, followed by collapse and dyspnea. Autopsies showed death in these cases to be due to suffocation."

Minkowski,[27] after feeding dogs with calf thymus or the nuclein obtained therefrom, noted a new substance in the urine, which he calls urotonic acid (imidopseudouric acid), and which he believes to be an oxidation product of the nuclein base special to the gland. It may be twenty-three times greater than the ordinary uric acid in quantity.

A. Clark,[28] of London, recently reported the case of an infant in which the thymus was found absent after death, and in which there had been extravasations of blood during life. This is interesting in connection with the known property of thymus extract to produce clotting when injected into the veins, and suggests some connection of thymic failure with hemophilia, and the use of the gland as a remedy in that affection.

A. E. Wright,[29] of Dublin, recommends for use a physiologic styptic prepared as follows:

Fresh and finely-minced thymus is extracted from twelve to twenty-four hours with ten to twenty times its weight of a solution containing 1 per cent. of carbolic acid and 1 per cent. of sodium chlorid; and to this is added, after straining, 0.5 per cent. of crystallized calcium chlorid. It is then made faintly alkaline, shaken and mixed with the effused blood, in the proportion of about 1 to 10.

Cunningham,[30] of New York City, in his experiments on dogs, found that the thymus extracts were as useful as thyroid extracts in combating or preventing the *cachexia strumipriva*, and as recent observations, especially those by Mendel,[37] seem to demonstrate that there is no iodin in thymus and that the iodin which Baumann[32] thought he had found in minute quantities in large amounts of thymus substance was, in fact, due to contamination by parathyroid substance, it is evident that the good results can not be attributed, as has been done by some, to iodin.

The same remark applies to Reinbach's[14] clinical observations. This observer relates the experience obtained in Mikulicz's clinic with the use of thymus extract in the treatment of ordinary goiters. Fifteen cases were so treated, while for comparison eight were treated with thyroid extract and two with thyreoiodin. It was demonstrated that thymus extract had a distinct influence in diminishing the size of the goiters in some cases, though nearly 50 per cent. were unaffected. Adenomata and cysts were uninfluenced both by thymus and thyroid extracts. No case recovered completely, and most of them required operation, but the remedy did no harm and gave rise to no unpleasant result. This, it is remarked, contrasts favorably with the thyroid treatment, since heart-failure is not uncommon after the exhibition of the latter. On the whole the effect of thymus treatment was thought to be greater than when thyroid extract was employed.

These experiments and experiences, showing a certain similarity between the action of thyroid and thymus substances, need to be harmonized with other observations showing dissimilarity or antagonism. Doubtless further research will show that the secretions of the ductless glands are complex; that there is a difference, physiologic and pharmacologic, between the gland-substance and the secretion; that both cell and cell-product change under diverse conditions; that, as with plants, for example, belladonna and pilocarpus, so with animal tissues, proximate principles largely antagonistic may exist side by side. This being done, we may then be able to find out just why certain substances in the two glands, or even the whole secretions, have under differing conditions opposing or supplementary functions. Cunningham, like Svehla, found that the thymus extracts depressed blood-pressure by a vasodilating influence; but according to my clinical experience, the blood-pressure is raised and vasodilation corrected by the administration of the thymus gland. Perhaps different conditions or the use of different active agents are here involved.

This much is certain, that in that group of cases to which I have called professional attention, under the name of vasomotor ataxia,[36] two distinct subclasses may be made; the one exhibiting greater tendency to undue relaxation of the vessels and finding its extreme type in Graves' disease; the other exhibiting a more marked tendency toward undue contraction of the vessels and finding its extreme type in Raynaud's disease. Between these two extremes exist all varieties, often with commingling of diverse tendencies toward vascular insta-

bility. Among the phenomena by which the two classes may usually be separated, the temperature-relation, that is, the reaction to heat or to cold, is prominent. Subjects of the one class complain of excessive heat sensations, undue sweating, and the like, even in comparatively mild summer weather, feeling, on the other hand, relatively comfortable in winter. Those of the other class suffer from moderate cold to a degree, and with symptoms, which, in the majority of men, it would require zero weather to produce, while summer is to most of them a time of comparative enjoyment; the exception being the infrequent cases in which a lack of perspiration even in summer is a source of distress. Administration of thymus or adrenal extract to those with undue dilatation of vessels—the summer patients—and of thyroid extract to those with undue constriction and want of perspiration—the winter patients—is often followed by relief of symptoms, Hence I am constrained to believe in a physiologic antagonism between the thyroid and the thymus—at least so far as vascular constriction and dilatation are concerned—in the patients and under the conditions mentioned. While I have observed some gratifying recoveries following the use of thymus substance, with and without the adrenal substance, in these cases, and in urticaria and asthma, and for the correction of the neurovascular disturbances of the menopause, I have also to record many failures; whether the cause of failure lies in the theory of therapy, in the diagnosis, or in further and undiscovered idiosyncrasies of the patient I know not.

Thus far we have dealt with what may be termed physiologic uses of thymus extract in therapeutics. As I have elsewhere pointed out, the therapeutic uses of animal tissues and secretions fall into three categories, which may be termed, respectively:

1. Homologous or direct physiologic organotherapy; in which actual or relative deficiencies in the functions of certain organs of the patient are remedied by the administration of functional substances derived from similar organs of the lower animals. This is best illustrated by the use of the digestive ferments in indigestion, and of the thyroid preparations in myxedema.

2. Physiologic organotherapy of the indirect type; in which the apparent function in the human body of a certain organic product leads to the administration of the like substance from animals for the production of a similar effect; and this, even when disease or deficiency of the given organ or secretion is not to be demonstrated or may not be suspected. The use of adrenal substance locally or internally to produce vasoconstriction is the most conspicuous example of this class.

3. Heterologous organotherapy; in which the pharmacologic properties of substances of animal origin are used for the production of effects having no reference to the physiologic uses or pathologic capabilities of the living gland in the human body. Just as strychnin or arsenic affects the animal metabolism and produces certain toxic or therapeutic results, so do substances of animal origin; and it may be that such uses will be found for all of the animal extracts.

Under this last head, perhaps, come the empiric uses of the thymus gland, to which I shall now direct your attention.

Folloing Mackenzie's[5] suggestion, that the good effect of thymus gland in certain cases of exophthalmic goiter was due purely to its influence upon nutrition, Kinnicutt,[6] and others, gave it to patients with pulmonary tuberculosis, noting during its use an increase in weight, with subsequent loss upon its withdrawal. It has been used with reported good results in rachitis and in marasmus. In one case of rheumatoid arthritis, associated with exophthalmic goiter, under my own care, the joint conditions improved, together with the general condition of the patient. I have since employed it in six cases of uncomplicated rheumatoid arthritis, with relief in one case, and with failure in the others. Macalister,[33] probably the first to use thymus gland deliberately as a therapeutic agent, found it remarkably useful in a case of pseudo-hypertrophic paralysis. Its use in chlorosis, by Bloudel,[34] may either be nutritive or may be brought into relation with the narrowing of the aorta found alike in chlorosis and in cases of the *status lymphaticus* with enlargement of the thymus gland.

Chittenden[35] has shown that the lymphoid cells of the thymus gland contain a much larger proportion of phosphorus—3.5 per cent.—than is to be found in the nucleoproteid of any organ except the pancreas—4.71 per cent. This richness in an easily assimilable element, which certainly is of profound importance in the structural and functional metabolism of the higher tissues, may explain the good effect of thymus therapy in diseases of nutrition. Its good effect in exophthalmic goiter I believe to be connected with its physiologic function, probably falling under the second rather than the first of our categories; but as to this, in common with nearly all other problems relating to the thymus gland, we still await further information from careful, scientific and skilful observations, in which I trust other New York physicians will do as good work as has been done by those of your colleagues whose names I have so frequently mentioned.

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MEDICINE AND MEDICAL MEN IN THE UNITED STATES.*

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NEW YORK CITY.

It is the purpose of this address to contribute to your knowledge of transatlantic medicine and medical men. That is why I have to ask the pardon both of my countrymen and of all of you, but mainly of the French gentlemen here assembled, for using—or, perhaps, misusing—a language not my own, but better known to most of you than mine. In this way I hope to serve the ideal of the International Congress, which admits the delegates of medicine from all over the globe, recognize three languages as equivalent, listen to contributions on all possible topics connected with medicine and its numerous tributaries that are offered by the glory-crowned heads of the profession and by those on whose shoulders, now young, will rest the future of medical science and practice, and thus give an example of cosmopolitanism, the universal realization of which must be left to the coming century.

Many millions of the population of the United States are European immigrants or their offspring; commercial interests between the two hemispheres are numerous, and there is a daily intercourse through correspondence, telegrams and travelers; the French and German languages are much studied in America, but while European literature is copiously imported into our country, our own is not so well known in Europe. Even European governments send to us representatives to study economical, mechanical and agricultural questions. But it appears that there are difficulties as regards the international appreciation of what concerns American medicine and medical men. Possibly it is because the intercourse between medical men is not sufficiently extensive and long. When our best men come to Europe it is for the purpose of rest; you find, unfortunately, but few of the great—mostly older—men at the international congresses. That of Washington in 1887 was not much frequented by Europeans for reasons satisfactory to themselves. Our young physicians and students who flock to European universities are not and should not be taken as fair representatives of American medicine. Your own great or well-informed men rarely come to us to see with their own eyes. Books on general American topics, like that of the superficial and clumsy L. Buechner, of Germany, or that of the ignorant and shallow, though elegant Bourget, of France, written after a few weeks' limited observations with narrow opportunities, are more apt to obscure the mental view than enlighten the mind. The spirit of de Tocqueville is no longer alive in the tourist.

THE CLERGY AS MEDICAL ADVISERS.

The first advisers in cases of sickness, all over New England at least, were the clergymen. Indeed, the first news we have of diphtheria in that region came from them. John Rogers and John Fisk are known to have been preachers and doctors, John Foster, of Boston, wrote the first medical treatise published in America in 1677—"Rule to Guide the Common People of New England; How to Treat—Smallpocks or Measles, Etc." What might have been expected when real doctors took possession of the field occupied by the clergy, however, did not occur. For a long time the latter remained staunch friends of the medical practitioner. The Reverend Cotton Mather, in 1721, strongly favored the inoculation of smallpox and defended and protected Dr. Boylston, who was persecuted by the mob of Boston for having a mortality of 2 per cent. among those inoculated, compared with one of 14 per cent. among those suffering from genuine smallpox. It is different now, when there is no trade or profession more fond of sectarian medicine, and medical dilettantism than the clergy. Part of the latter, however, spent all its energy in another direful direction; the witchcraft prosecutions and *auto da fé's* were theirs, and mainly Cotton Mather's, while it is creditable to our medical forefathers that they had nothing to do with them.

* Read before the Thirteenth International Medical Congress, Paris, August 6, 1900.

EARLY AMERICAN PHYSICIANS.

The first physicians in the colonies came from abroad. Wooton, in 1607, Russell, in 1608, appear to have stayed but a short time, for it is reported that when John Smith was wounded, he had to go to England to be treated. The name of Lamontagne is mentioned in 1637, John Clark, of Boston, in 1638; Child, in 1644. There was but very little opportunity to learn in the seventeenth century. We know of no lectures except those of Dr. Giles Firman, who lectured in Harvard in 1647 on human osteology. At that time medical practice was learned in apprenticeship; young men would serve and study with a practitioner from three to seven years, the same time that Jacob slaved for Rachel, without getting her, after all. This system of apprenticeship was continued with more or less modification until recently. Indeed, most medical schools, until lately, would accept the apprenticeship with a preceptor in lieu of a year's college course. But in the early times those who had the means, and the ambition to learn, went abroad to Leyden, Paris, Padua, or Great Britain. They were mostly classical students; classical studies were, indeed, so much thought of that the Medical Society of New Jersey 120 years ago demanded Latin and some Greek as indispensable for the license to practice medicine. That was, unfortunately, changed; for until a short time ago the admission to a medical school depended solely on the sweet will of the untaught and ignorant ploughboy or drygoods clerk.

EARLY MEDICAL LECTURES AND MEDICAL SCHOOLS.

Our first information in regard to medical lectures refers to those on anatomy. Evidently that subject struck the imagination of chroniclers most forcibly. Dr. Thomas Cadwallader instructed students in Philadelphia between 1745 and 1751, as did Drs. John Bard and Peter Middleton, in 1750, in New York; Dr. William Hunter, in 1752, in Newport, R. I., and Dr. William Shippen, in Philadelphia, from 1762 until 1765, when the Medical College of Philadelphia was founded. He lectured on anatomy and midwifery, in agreement with the time which did not abhor, out of sheer ignorance, the incompatibility of anatomy and obstetrics. Historical justice compels me to add right here that it was a professor of anatomy, our famous poet, Dr. Oliver Wendell Holmes, in Harvard University, who, in 1843, long before the unhappy Semmelweis, proclaimed the contagiousness of puerperal fever, and the incompatibility of the lying-in room and the dissection-table. It was Shippen, the anatomist, who tried to establish a school of midwifery. Again, it is historical justice to proclaim that the injustice of man has not only interfered with the instruction, but in most states, even with the very existence of midwives, in contradistinction to the old Philadelphian. There were two medical schools before the War of Independence—one in Philadelphia, established in 1765, and one in New York, es-

tablished in 1768. The first degree conferred in medicine was that of Bachelor of Medicine, in 1768; the first degrees of Doctor in Medicine were given in New York to S. Kissam and Robert Tucker, in 1770. Before 1776, when the war suspended them, these two institutions had conferred 51 degrees. The medical school of Harvard was founded in 1782; that of Dartmouth, N. H., 1797, and that of Lexington, Ky., in 1799. Thus, in 1800, there were five medical schools in what then was the United States. In New York the names of the professors were Richard Bailey, John R. B. Rogers, Wright Post, William Hammersley, Sam. L. Mitchell and David Hosack.[1]

The Medical School of King's College, in New York—the name formerly borne by Columbia—was discontinued, but in 1860 the College of Physicians and Surgeons, which was founded in 1807, simultaneously with the School of Medicine of the University of Maryland, took its place as a nominal, and a few years ago, as an actual, part of the Columbia University. Of the 156 medical schools which exist at the present time, three date from 1765 to 1800, twelve were established between 1801 and 1825, twenty-two between 1826 and 1850, thirty-three between 1857 and 1875, and eighty-six since. How many more have been so good as to disappear from the face of the American earth nobody cares to learn or to know; if we knew we should shed no tears.

In 1899 there were 156 medical schools in the United States, with 24,119 students; the latter have increased 142 per cent. in twenty-one years. Of the 156 schools, 21 call themselves homeopathic, with 1833 students; 7 eclectic, with 582, and 3 physio-medical, with 85 students. I hope nobody will ask me for an explanation of the three last terms, in this year, 1900; for I could not give one. Of the 156, 74 are departments of colleges and universities; 82 are separate institutions, and only 152 grant degrees. In addition to these 156 there are 10 medical schools for graduates, who come to the larger cities, mostly New York, for the purpose of taking courses, chiefly in specialties. In 1899 these 10 schools had 1916 students, of whom 73 were women.

Of the 10 graduate schools 3 are in Illinois, 1 in Louisiana, 4 in New York and 2 in Pennsylvania. Less than 2000 physicians are taught in these institutions annually, most of them in short courses. They employ 300 professors and 381 adjunct professors and instructors. There can be no doubt as to two effects; first, a good many practitioners of the country have a more or less brief opportunity to improve themselves, and, second, many practitioners of the large city bask in the sunshine of the professional dignity. Sometimes it seems as if plain doctors were scarce at present. But there are some left.

At the time of the War of Independence there were probably 3500 physicians amongst the three million inhabitants of the colonies. It is estimated that 400 of these had received medical degrees. In 1798, 16 doctors of New York died of what was called "the plague;" there were 94 in New York in 1800.[2] At present we have probably 120,000 practitioners in the United States.

The ratio of physicians to population is less than 1 to 600 in our country, while in Great Britain it is 1 to 1100, and in Russia, 1 to 8500. Proportionately we have four times as many physicians as France, five times as many as Germany, six times as many as Italy, and six times as many medical schools as either of these countries. Medical teaching, however, will be better, more uniform and more in accordance with the real requirements of the people, when our 156 schools have been reduced to 25, and each of them is connected with a university as its medical department.[3]

Of the 55 political divisions in the United States, including Cuba, the Philippines and Puerto Rico, 21 report no medical schools. Of the 156 medical schools in 34 political divisions, 80 admit both men and women, 7 women only, and 74 are departments of universities or colleges. One requires a college degree for admission, namely, Johns Hopkins, in Baltimore; 12 a school course; 3 a three years'; 12 a two years'; 97 a one year's course; 29 a common school education, and 2 give no reports; 6 have a 9 to 10 months' course, 21 an 8 to 9, 45 a 7 to 8 and 84 less than 7 months' course; 141 maintain a 4 years' course, 10 a 3, 2 a 2 and 2 a 1 years' course. One is unknown.

MEDICAL PRACTICE LAWS.

The earliest law[4] relating exclusively to physicians was passed by Virginia in 1639, but, like the later act of 1736, it was designed mainly to regulate their fees. The act of 1736 made concessions to physicians who held university degrees. In only two of the thirteen colonies were well-considered laws enacted to define the qualifications of physicians. The General Assembly of New York, in 1760, decreed that no person should practice as physician or surgeon in the City of New York till examined in medicine and surgery and admitted by one of His Majesty's Council, the Judges of the Supreme Court, the King's Attorney-General and the Mayor of the City of New York. Such candidates as were approved received certificates conferring the right to practice throughout the whole province. A similar act was passed by the General Assembly of New Jersey in 1772.

In 1840 laws had been enacted by the legislatures of nearly all the states to protect citizens from the imposition of quacks. Between 1840 and 1850, however, most of these laws were repealed, or were not enforced, as a result of the cry that restrictions against unlicensed practitioners were designed only to create a monopoly.

QUACKS AND QUACKERY.

As every people, high or low, cultured or uncultured, has just as good doctors as it deserves, it appears that one-third of those who practice, mainly in Germany, where for thirty years the practice of medicine has, by act of government, been lowered from a profession to a trade, are barbers, weavers, shoemakers, shepherds, waiters, workingmen, tailors, carpenters, etc. With us in America the dilettanti are mostly clergymen, the quacks mostly women, trained nurses, spinsters without occupation, etc. Quackery has been raised to a sort of religious creed, and is practiced and preached with fanaticism, not so much amongst the poor and untaught

1. David Hosack graduated in Philadelphia in 1791 and afterward studied abroad. He brought home with him a cabinet of minerals and a herbarium. He helped found the Historical Society of New York in 1804 and maintained the Elgin Botanical Gardens, between Forty-seventh and Fifty-first streets and Fifth and Sixth avenues, which now form part of the valuable property of Columbia University.—Sidney H. Carney, Medical News, Feb. 17, 1900.

2. Sidney H. Carney tells us that about that time the gold-headed cane was still pretty universal, but small clothes disappeared rapidly and pantaloons took their place. He also tells us something of their pay. In Bellevue Hospital the attendants on plague cases received twenty shillings daily; at that time the hospital was three miles out of town. A visit amongst the people cost one dollar, a visit and dose of medicine a dollar and twenty-five cents, pills twelve cents; for going a mile out of town one dollar extra was charged; to Brooklyn three, and to Staten Island ten dollars. Venesection cost from one to five dollars.

3. Henry L. Taylor: Professional Education in the United States, p. 367.

4. Henry L. Taylor, loc. cit.

as amongst the better-to-do classes, the semi-instructed and half-cultured, the well or overfed and mentally unbalanced men and women. It is wonderful to what extent the so-called better classes of society, professional people, journalists, lawyers and the clergy submit to the imposture of frauds or to their own imaginations, based on ignorance or half-knowledge. Nothing is more apt to prove that one-sided information is far from being general culture. That is why we have all sorts of "pathies"—osteopathy, vitapathy, electropathy, hydropathy, divine healers, magnetic healers, christian scientists, faith curists, mind curists, sun curists, Zion curers, etc. In most states, and in New York also, these shams are unchecked; in spite of the apparent strictness of the law, they exist simply because under its wording it is found impossible to determine the exact meaning of "practice of medicine." It is in the cases of these enemies of the human race that the well-directed efforts of legalized county societies of medical men, supported by good lawyers, have often proved ineffective.

MEDICAL SCHOOLS.

Medical schools grow like toadstools. Charters were granted by legislatures indiscriminately. These schools were self-sustaining; they were created by a few doctors who, in any town, combined to foster their own interests or that of a few friends. After the Medical College of Philadelphia, when reorganized in the University of Pennsylvania in 1792, had dropped the requirements of Latin and some Greek, of physics, natural history and botany, no preparatory education was expected of a matriculant. In many schools that is so to this day. These schools rivaled each other in the cheapness of their fees, in the shortness of their terms and in the easiness of their examinations. There was no clinical instruction of any kind fifty years ago, almost none, even in large cities, forty years ago, when physiology, chemistry, pathology, surgery and obstetrics were recognized as legitimate subjects for instruction. The term of lectures was from four to five months, the length of study, two such courses, which were identical, the teacher repeating his instruction twice to the uncouth candidates of medicine. The result of the examination after two such courses was a diploma, and this diploma carried with it the license to practice. Whenever a progressive medical school was anxious to raise the standard of education, it had to fear the loss of students on whom depended its fees, that is, its existence; and so it happened that the University of Pennsylvania had to rescind its good intentions, when, twenty-five years ago, it dared to lengthen its course of studies.

The power to confer degrees differs in the various schools of the forty-five states composing the Union.

Low standards in many professional schools[5] are due to a failure to subject the degree-conferring power to strict state supervision. In New York and Pennsylvania the laws now prevent an abuse of the power to confer degrees. A similar bill, strongly advocated by educators, was defeated in Illinois through the efforts of politicians and others in favor of low standards. In Ohio and Nebraska the statutes require only the nominal endowment of $5000 for a degree-conferring institution. In other states and territories, as a rule, any body of men may form an educational corporation with power to confer degrees without any guaranty whatever that the privilege will not be abused. From all of which you infer that it is impossible to judge of the Union from a single state. It should never be forgotton by Europeans that it takes forty-five states to make the United States, that these states are of different ages, populations, races and cultures; that they have different needs and requirements; that the greatest refinement of the East, the wild naturalism of part of the far West, the abject animalism of part of the South, are covered by the same flag, and that the boundaries of most states include the most various degrees of culture, and of the contrary.

The omnipotence of every medical school which gave the license to practice with its degree of Doctor in Medicine led to the grave evil of furnishing the country with low-grade practitioners. It is true that mainly in the Eastern states a few colleges would gradually improve their methods of teaching and lengthen their curricula, but they were exceptions to the rule. On the contrary, some of the schools in New York opposed bitterly every attempt at progress. Progress is due, not to the schools themselves, but to the influence of the medical profession that forced the schools to submit to public opinion, which insisted upon improvement of medical instruction. As early as 1837, in Philadelphia, and 1839, in the Medical Society of the State of New York, it was resolved that teaching and licensing should be separated.

ORGANIZATION OF MEDICAL ASSOCIATIONS.

This movement resulted in a call for a convention of delegates from all medical schools and societies in the United States. This convention of 1846 led to the formation of the AMERICAN MEDICAL ASSOCIATION, and was the forerunner of many attempts at giving us better doctors and better schools.

The Association of American Medical Colleges that was founded in 1890, the American Institute of Homeopathy, in 1844; the National Confederation of Eclectic Medical Colleges, in 1871, and the Southern Medical College Association, in 1892, deserve credit for earnest efforts in that direction. The greatest difficulty is found, as I have said, in the different standards of the people of our vast territory. Indeed, every century, and every people, has exactly the doctors it deserves, just as it has the rulers it deserves. That is why it is so difficult to arrive at a uniform standard all over the United States, and to arrange a reciprocity between the states which would allow the physician of one state to settle in another.

Much has been accomplished in this respect by a special committee, which reported at the meeting of the Association of Medical Colleges, in June, 1899.

Based upon the replies of fifty-six of the better schools, the following rules were proposed:

1. After July 1, 1900, every matriculant is to have a diploma from a high school or to pass an examination in the branches required by a high school.

2. Before a student can be eligible for the degree of doctor of medicine, he must have attended in a well-equipped medical school four courses of lectures of at least six months each. These courses must embrace at least 3300 hours' actual work in the school including—besides didactic lectures and recitations—500 hours of laboratory work, 150 hours of practical work, one or more obstetric cases personally attended by each student and 750 hours of clinical teaching. At least 45 months must intervene between a student's matriculation and the date of his graduation. All of the work should be fairly apportioned throughout the four years. No school can be considered capable of giving the requisite instruction that can not command each year at least 3000 hospital or dispensary patients for presentation to its classes.

How difficult it is to reach such ends may become visible by the single fact, that it took us, the medical men

5. Professional Education, by James Russell Parsons, Jr.

of the State of New York, as assembled in the medical society of the state—not of the schools, many of which were opposed to us—twenty years' constant exertion, with many defeats, to enforce a minimum of preliminary knowledge before matriculation, and the passing of an independent state examination after the degree of doctor was obtained from a medical school, both for citizens and for foreigners, before the license to practice was awarded. How important that is you may best understand when you are told that during the few years of the existence of the new law, of 4808 physicians examined, 3722, or 77.5 per cent., were successful; of 916 dentists examined, 77.5 per cent., and of 67 veterinarians, 44.7 per cent. were successful in obtaining their licenses. Thus the people were saved from the rubbish of incompetent doctors that, in former years, would have swelled the dangers to the public weal.

MEDICAL INSTRUCTION AND INSTRUCTORS.

The course of instruction has undergone great changes. A few years ago the so-called "seven branches of medicine" were taught in didactic lectures, repeated annually, to unprepared young men. There was no laboratory, and but little clinical work. At present the curriculum of all good schools extends over four years, includes systematic and compulsory work in chemical, pathologic, histologic and bacteriologic laboratories, and furnishes clinical instruction, no longer exclusively to large classes with no means of independent examinations on the part of the student. Moreover, the studies are graded, progressive from year to year, and in many schools the students are examined from year to year. This plan is objected to by those who favor absolute freedom of teaching and learning, in accordance with the theory of European continental universities. But the study of medicine should no longer be an individual affair. A school represents, in teaching those who are to practice on the people, the people itself; it should hold itself responsible to the people, and should be prevented from letting loose numbers of unprepared men or women; it should, therefore, make the exact studies without which no practitioner can at present perform his missionary work, compulsory. With advancing years, and after a long experience as a citizen, a practitioner and a teacher, I never forgot the ideals and principles of my youth that centered in the demands of individual freedom, but I was ever of the opinion that the public good should precede personal rights and control individual action. That is why I deplore the waste of a year or more in the life of a student as so many lost opportunities, and as a dereliction of duty.

What is demanded of a medical department of a university is the furnishing of a supply of amply equipped medical men. This does not exclude, however, the other responsibility and privilege of a university, viz.: To furnish opportunities and means for independent research. I have forty years of professional life behind me, and can assure you that the best original workers of after years, in and out of laboratories, were those who most closely attended the prescribed laboratory exercises.

It should also be mentioned as a hopeful sign of the rapid development of American medicine, that more and more men, and also women, have gone into medicine with all the warmth of hearts enlightened by intellects, and not for the money that may be, but rarely is, in it: and that quite often well-to-do men are carried into and kept in the laboratories of medicine by the enthusiasm engendered by the fascination of scientific research. They invest their own in their pathologic, biologic, histologic or chemic labors, and, as good citizens of the Republic, are satisfied with the interest their investment will bear to the domain of science in the service of humanity. Medicine, like politics, will be the purer for the money put into it, instead of being taken out of it.

It is hardly forty years since any systematic policlinical instruction was given in the best of our schools. Now, together with obligatory laboratory work, clinical teaching bids fair to assume the leading part in our instruction. But we are far from having European facilities. For what governments do for you, we who have but very few endowed medical schools, have to rely on the efforts of the profession and the benevolence of those who appreciate the good that is done to mankind by medicine and the medical profession.

Until a few years ago all sorts of educational institutions were benefited by philanthropists to the exclusion of medicine. Some change has taken place in that. From 1894 to 1898 the most notable gifts and bequests amounted to $2,631,000 for medical schools, and $16,593,701 for hospitals. The new medical school of Cornell University, situated in New York, has been presented with $1,500,000 by a single benefactor. In the City of New York alone the names of Vanderbilt, Sloane, Carnegie, Ollendorfer, Wœrishoffer, Seth Low, Payne and Pierrepont Morgan are not the only ones that should be mentioned and never forgotten. This, however, is not all. Only two years ago an unknown benefactor presented Columbia University with a fund wherewith to establish a ward in Roosevelt Hospital for the bedside instruction in the diseases of children for the medical students.

Benevolence is even more special than this. Mrs. Caroline Brewer Croft left $100,000—which, however, is reduced by the English heirloom tax—to Harvard University, on the condition that the income thereof should be spent on researches on the etiology and cure of cancer; the same purpose for which the legislature of the State of New York has for some years past spent $10,000 annually, to be used by Roswell Park, of the University of Buffalo. Special hospitals are either endowed or benefited in a similar manner. The Cancer Hospital of New York was established, or strengthened, by money given by Mrs. Collum and Mrs. Astor many years ago. It has, however, changed its destination and name since.

In this way much good has been done, not always well directed, though well meant. It is peculiar to notice, however, to what extremes different elements in the same nation will go. The same medical profession which has to be grateful for spontaneous offerings made in the interest of a scientific education is compelled to fight annually before almost every state legislature, and before the Congress of the United States, the dangerous fanaticism displayed in the antivivisection movement by the old women of both sexes and all ages.

Who were the teachers? In by-gone times a few practitioners would combine to form a school; legislative approval could be had for the asking; they were our "professors." This position gave them prominence in the public and increased their private practice; that is why the salaries, if there were any connected with their places, were commensurate with their possibilities to make money outside. Now and then the anatomist got more because his office took more of his time. Thus it happened that medical teaching was considered subordinate to other occupations, even in good schools. There are but few men of those times who are remembered because they were teachers; my old friend Alonzo Clark,

one of the most learned, intelligent and eloquent professors the College of Physicians and Surgeons ever had, was almost forgotten before he died, not twenty years ago, and Austin Flint is better remembered by his textbook than by his personal teaching. That has changed. Teaching has begun to be considered as an end in itself in medicine as it is in other disciplines, mainly since the introduction all over the world of the exact collateral branches of medicine, which each require all the time and all the attention of a teacher, and mainly since the foundation and gradual development of the medical faculty of Johns Hopkins University, in Baltimore.

The systematic study of pathological anatomy and other so-called exact branches of medicine, histology, bacteriology, etc., is comparatively young. After all, they are young all over the world. Fifty-two years ago, when in Germany, and wanting to learn something about pathological anatomy, I had to go to Göttingen to listen to Frerichs, the only man who taught it in Germany, with the exception of Virchow, in Würzburg, and Rokitansky, in Vienna. These studies began in America at a very opportune time. T. Mitchell Prudden and William H. Welch had each a small pathological laboratory in New York in connection with the medical schools to which they belonged more than twenty years ago, but the systematic study and teaching commenced with the first development of the ideal of a university. While formerly we had some good medical schools, that furnished good average doctors for the community, we then approached the era in which we arrived at the knowledge that a university was to be an institution which was not only to impart knowledge, but also to create knowledge by original research. This ideal was first realized by the Johns Hopkins University, at Baltimore, since William H. Welch was called to the chair of pathology. We then had the peculiar spectacle, characteristic for modern medicine, that the newly-established medical school, contrary to what was customary both in America and in Europe, consisted originally in laboratories of physiology and of pathology. From that time on, remarkable changes took place in the configuration of most of our medical schools. Pathological anatomy became of fundamental importance, full professorships of that branch were established in most great schools, and also dozens of laboratories both for teaching and for research. Besides, many of the hospitals were supplied with pathological and clinical laboratories which vie with those of Europe, assistantships and fellowships were increased, and the students were taught to appreciate the new opportunities given and demanded by modern medicine. As far as T. Mitchell Prudden, in New York, is concerned, the volumes of publications emanating from the beautiful laboratory of the College of Physicians and Surgeons prove his enthusiasm and successes; and never was there a more influential teacher than Welch, who in two brief decades succeeded in disseminating exact research all over the United States through his students and followers, who have been called, one by one, to Philadelphia, Chicago, Albany or Boston. Dozens of them combined to celebrate on May 4, 1900, the twenty-fifth anniversary of his graduation as doctor in medicine by a precious volume containing original contributions of the very highest order, an honor to the famous master and an ornament of medical literature. There are in our recent American literature two more dedicatory volumes of similar import, one containing anatomical papers contributed by his pupils in honor of Professor Wilder, of Cornell University, 1893; the other, mostly clinical, written both by pupils and by American and European colleagues in favor of a New York teacher. In the face of such results, and such enthusiasm, and such love of work, who is there that still looks down on American medicine and American medical men?

AMERICAN MEDICAL LITERATURE.

According to E. H. Bradford,[6] while the best physicians of the colonies and the young states acquired their knowledge in Great Britain, their books were English. No books grow on the stumps of the forest primeval. When the War of Independence began in 1774, there was one book, three reprints and twenty pamphlets by American medical men. To-day there are 7000 American books and a countless number of pamphlets; there appear annually 300 books and pamphlets and 5000 journal articles. In one year, 1879-1880, the United States published 10,334, and Great Britain, 7476, books and articles. In the catalogue of Harvard University of 1875-1876, 44 foreign and 13 American medical books were recommended to the students; amongst the latter there was none on medical chemistry, obstetrics and surgery; in the catalogue for 1898-1899 there are recommended 71 foreign and American books.

The first regular publication of a journal occurred in 1790. It carries the following title: *A Journal of the Practice of Medicine and Surgery and Pharmacy in the Military Hospitals of France,* and contains absolutely nothing but translations. For another half century France was, together with Great Britain, almost the exclusive fountain from which the thirst of American medical men was quenched. The first original journal was the *Medical Repository,* which existed from 1797 to 1824. Not long afterward the first quarterly, then monthly, *American Journal of the Medical Sciences* was founded by Dr. Isaac Hays. These seventy years it has preserved its reputation for its scientific spirit, industry and conscientiousness. Much that was new, much that is new, may be found in its volumes.

Of the large number of quarterlies, or monthlies, I may be permitted to mention the *University Medical Monthly,* of Philadelphia; the *Albany Medical Journal,* of Albany; the *Postgraduate,* of New York, and the *Therapeutic Gazette,* of Philadelphia, not to speak of special journals, such as the *Annals of Surgery,* the *Archives of Pediatrics,* the *American Journal of Obstetrics and Diseases of Women and Children,* the *Archives of Ophthalmology and Otology,* the *Journal of Cutaneous and Genito-Urinary Diseases,* the *Journal of Mental and Nervous Diseases,* and many others, some of which are now and then quoted in Europe, and all of which deserve more attention than they have hitherto commanded.

There are in every nation some publications which in their individual spheres demonstrate the very best that can be accomplished, and by which the intellect and industry of a people should be measured. Such proofs of the achievements in medicine in America are contained in the *American Journal of Experimental Medicine,* edited by Welch, and the *American Journal of Physiology,* by Bowditch and others. They are the pride of those of us that have lived through the most important period of the development of American medicine, and equal any of the European productions of similar claims. I know they have met with the unstinted praise and applause of European masters.

As an unavoidable contrast to so much excellence one can not help noticing the hundreds of medical journals

6. Boston Medical and Surgical Journal, June 29, 1899.

which appear all over the United States. Many are printed with honest intentions, others for the purpose of advertising their editors or of puffing proprietary articles. The growing commercialism of the end of the century grasps every opportunity, and medical, like every other branch of literature, is prostituted in the interest of social, professional or financial egotism. That is why the 300 medical, or alleged, medical, journals of the United States could well be reduced to fifty. If this were done, both medical knowledge and ethics, and the independence of medical journalism would be served to better advantage. Under the present circumstances the medical publications live more on advertisements than on subscribers, and both the publisher and the editor soothe their ethical and scientific conscience, if it ever existed, with the glitter of gold. I have been told mainly in the medical magazines both of France and of Germany, that the same occurs in your countries. I speak, however, of what I know, and I am best informed of what is going on in mine.

Among the most important instructors of the medical profession in our country are the great weekly journals which appear mostly in the large cities: New York, Philadelphia, Boston and Chicago. Most of them have a large number of subscribers, and have existed long. *The Boston Medical and Surgical Journal* has reached its 142d, the *New York Medical Journal* its 71st, the *Medical News* its 76th, and the *New York Medical Record* its 57th volume. The JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, which has appeared for eighteen years, takes the same place in relation to the AMERICAN MEDICAL ASSOCIATION that is occupied by the *British Medical Journal* in relation to the British Medical Association. It was founded to publish the proceedings of the association, which from 1848 till 1882 had published thirty-three volumes, and, by opening its many pages to contributions from other sources, has improved both in material and tone from year to year.

I must not close these remarks on the weekly journals of my country without mentioning the *Philadelphia Medical Journal,* which was founded by a society of medical men that wished it to be independent of the medical publishers both in its finances and in its scientific and ethical management. We in America are peculiarly situated; if you in other countries are no better off, it is your fault, as it is ours. There are very few journals in America that pay anything to the contributor, and when you want reprints you have to pay for them. The policy of a journal, the selection of the advertisements, sometimes even the admission of articles more or less scientific or quackish, is to a greater or lesser extent in the hands of the publisher. It takes an editor of unusual character and prudence either to hold his place or to be removed unceremoniously. But the publisher gets rich; that is what, in his opinion, medical science, art and quackery are made for. This condition of things was to be changed by the newly-established *Philadelphia Medical Journal.* It has succeeded to a certain extent. It furnishes a large weekly edition, with good, original articles, and well-selected and digested extracts of whatever is best in the medical literature of both hemispheres, with a more ethical class of advertisements than most other journals can boast of, with a fearless editor, and with a list of subscribers that has exceeded 10,000 within two years.

Contributions to the literature of medicine, not of equal rank, are furnished by the large societies, particularly of the states. Many of them publish annual reports. The American Medical Association published thirty-three volumes before its transactions were collected in its journal. The New York Academy of Medicine has furnished nineteen volumes since 1847, which are found in many libraries of Europe; the College of Physicians of Philadelphia, twenty-nine since 1787. The very best, certainly among the best, are the productions of fourteen special national associations, which were founded at a period in the life of the AMERICAN MEDICAL ASSOCIATION, when its results did not satisfy the expectations of those who had no time to spare for entertainments, excursions, medico-political wrangling and other pastimes. These men, most of them of a specialistic turn of mind, and bent upon filling their time with work, congregated into special associations, whose members were recruited from the vast territory of the United States. The oldest of these seceding associations is the "Ophthalmological," which was founded in 1864. The majority have a limited membership. The Association of American Physicians had originally 100, now 125; the Pediatric, 40, now 60 members. The object was to select the working members of the profession only. Thus it has happened that their contributions to literature are very valuable indeed.

The Ophthalmological Association has published until the beginning of this year 8 volumes since 1864; the "Otological," 6 since 1868; the "Neurological," 22 since 1875; the "Gynecological," 23 since 1879; the "Surgical," 16 since 1881; the "Climatological," 14 since 1884; the Association of American Physicians, 13 since 1886; the "Orthopedic," 11 since 1889; the "Pediatric," 10 since 1889, and the "Anatomical," 8 since 1888. The Genito-Urinary Association publishes its transactions in the *Journal of Cutaneous and Genito-Urinary Diseases,* and the "Physiological" in the *American Journal of Physiology.*

In addition to those there are five volumes of unusual excellence, containing the proceedings of the "American Congress of Physicians and Surgeons," whose history is creditable to Mastin, Pepper, Weir Mitchell and others, who founded it. It is as follows: When all of those fourteen special national associations had existed for a greater or less time, and when among the most comprehensive and philosophical minds of the nation the fear of unchecked specialism became more terrifying, it was resolved, amongst universal applause, that the "disjecta membra" should unite once every three years into a congress, whose meetings should be held in Washington, while the selection of the time and place of the two intervening annual meetings of the individual societies was left to their own discretion. In this way the union and unity of medicine was recognized and re-established—a very necessary step in our times, where the appreciation of the principles and purposes of humanitarian and scientific medicine are in danger of being lost sight of in the same degree that the horizons of the specialistic workers, in clinics, shops and laboratories become narrow.

Books are numerous, and of about the same nature as in Europe. Text-books for students on all possible subjects, and written by masters, or those who believe they are, some of them masterpieces, some indifferent, some catechisms, which, with their questions and answers, appear to be compounded by idiots for the use of idiots—"*que c'est un plaisir de se voir imprimé,*" says Molière—they all appear to find a market. It is perhaps invidious to select, but I may here say in a general way, that some of our text-books in medicine, obstetrics, materia medica, diagnosis, embryology and many other branches compare favorably with yours.

Of monographs we have not so many as you; probably for the reason that the number and the variety of our many weekly and monthly journals devour whatever monographic essays have been prepared. Cyclopedias we have like you. It is very fortunate that the publishers, who, as a rule, were the first to give the idea, had no power over their contents. Those edited by Pepper, Keating, Loomis and Thompson, Mann and Stedman deserve as high praise as those published in Europe. A pleasant feature in medical bookmaking is the occasional participation of the Congress of the United States. Indeed, almost every state of the Union publishes frequently, at the expense of the people, papers and books of common interest, mostly geological, geographical and agricultural. Medicine owes to the appropriations of the national Congress, not always given with equal liberality, six volumes of the Medical and Surgical History of the War, two Medical Statistics, seventeen of the Index Catalogue of the Surgeon-General's Library, with its continuations, and the Library itself. The *Index Medicus* was not a government publication; at first printed by an ambitious and enthusiastic publisher, it was afterward secured by a small number of the subscribers willing to pay a big price. Its final collapse after twenty years' strenuous labor on the part of Drs. Billings and Fletcher is not a creditable leaf in the book history of the profession of the United States.

There is, I believe, no country with a greater consumption of journals and books than the United States. There is probably no village doctor anywhere who has not a library, who does not buy books or cyclopedias from time to time, and take one or more journals. What Colonel Stoffel called thirty years ago the "instinct of labor" in the German Government Employer, is applicable in some other way, to the American medical student and practitioner. They waste no time, are industrious workers and voracious readers.

There is probably, however, no country with a book trade in a more wretched condition. In our city of three million inhabitants there is a single book-store in which a fair number of medical books in our own language of different authors and publishers are for inspection and sale. The latter sell their own books on subscription, by the aid of circulars and advertisements, and by agents, who vie with those of wholesale drug manufacturers in making doctors' lives miserable—it is individualism run mad. I see no better remedy than a syndicate of medical men for the purpose of publication and promiscuous sale.

Medical libraries were founded at an early date. The oldest—founded in 1762—is that of the Pennsylvania Hospital, in Philadelphia. The library of the New York Hospital was founded in 1776 and transferred to the New York Academy of Medicine two years ago; it then had 23,000 numbers. That of the College of Physicians, in Philadelphia, established in 1788, has about 56,000 numbers; that of Boston about 30,000. The largest medical library of our, perhaps of any, country, is that at Washington, in charge of the Surgeon-General of the Army; it contains more than 100,000 numbers, well selected, in excellent order and accessible to the medical men of the vast country, who, I know, avail themselves eagerly of the proffered opportunities. It was founded by William A. Hammond during our Civil War, continued and extended by John S. Billings, and is at present in charge of Dr. Huntington. Next in order is that of the New York Academy of Medicine, with about 60,000—or, with duplicates included, 80,000—numbers. It increases rapidly, partly through purchases out of the income of its library fund of $56,000, partly through donations, and partly through the accumulation of 700 medical journals on the shelves of its reading-rooms. Our brethren of the Kings County Medical Society, in Brooklyn, have just finished a new building, in which their rising library has been stored. Smaller medical libraries have been established in at least thirty cities, as far as I know. Large libraries are also in possession of private physicians. A year ago Dr. N. Senn, of Chicago, presented his collection of more than 24,000 books to the Newberry Library, of that city. I am acquainted with one in the possession of a New York physician of about 15,000 numbers.

ETHICS.

The ethical conscience of the physicians of the United States is exhibited in a great many ways. It is considered unethical for a doctor to own a drug store or a part of it; to take a patent on any invention of his own; to recommend over his name a patented instrument, a proprietary food or medicine or mineral water. This is illustrated by what happened to the famous Morton after his successful demonstration of the anesthetic effect of ether in the Massachusetts Hospital. After having extracted a tooth on September 30, 1846, without giving the patient any pain, he applied immediately for patent rights and sold individual office rights. Moreover, he kept his composition, which he called "letheon," a secret. It was then that the profession turned against him and forced him to admit that his "letheon" was sulphuric ether disguised by some aromatic oil. A medical man in America is prohibited ever to advertise his name, or office hours, or his specialty in a newspaper or lay magazine; even to announce his specialty, if any he have, on his cards. If ever his name, his departure from the country or his return is publicly announced, the suspicion is that he instigated the publication. If cases or operations of the same physician appear repeatedly in the public press, it is taken for granted that it did not occur without his knowledge, consent or prompting. All of these things impair a medical man's professional standing; they render him an improper candidate if he applies for membership in a medical society, or make him, if he be a member, the subject of discipline. In regard to all this, part of which may appear too rigorous in the eyes of Europeans, I beg to submit that, as in all democracies, laws and rules are not enjoined by a controlling government, so in their societies and organizations democratic medical men make their own rules and regulations, and see to it that they are obeyed. It is true that it takes democratic men, and gentlemen, to frame such strict rules, and to heed them.

Many of the rules accepted by American medical gentlemen are contained in a book compiled by an Englishman, Percival, in 1807. It was received as the code of ethics of the AMERICAN MEDICAL ASSOCIATION in 1847 and is still obeyed by those who know the book, or who do not know it, or even by those who never knew of its existence. One of the regulations of the code forbids consultations with homeopaths.

(To be continued.)

Dogs of War.—Scotch collies are trained for ambulance and bearer work in the German army. Their saddle bears a red cross, a flask and first-aid dressings. It is claimed that these red-cross canines will scent wounded men who under ordinary circumstances might be overlooked by litter-bearers and left on the battlefield to die.

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EXPERIMENTATION ON THE CORD AFTER DECAPITATION.

Opportunity for investigation along this line is scarce. In the experiments made during operations on the skull or spinal column, the results are necessarily clouded by the action of the anesthetic, and still more by the tumor, or compression of the organ for which the operation has been undertaken. In healthy normal conditions experimentation can be made only during the few moments which immediately succeed the severing of the head from the body. Permission for such investigation is almost always withheld by the authorities, and public clamor would certainly be directed against investigation. In spite of this, however, Prof. A. Hoche[1] describes two such experiments made by himself upon decapitated criminals—in the one case three minutes, and in the other two minutes, following decapitation.

The effect of stimuli applied to the fast-cooling body becomes rapidly less as the hemorrhage robs the parts of their blood. The brain loses its power of responding to stimuli almost instantaneously, while the muscles and nerves still react to the electric current. The spinal cord is not influenced quite so rapidly as the brain by the loss of blood, and, therefore, if experiments are made during the first few minutes, results may be obtained. The experiments are undertaken chiefly with a view to determine the physiologic question, whether the substance of the cord itself reacts to stimuli. The question has so often been answered in the negative, because the bodies were experimented upon as long as one-half hour after death, when the anemia and temperature had rendered the cord insensible to stimuli. The investigator also endeavored to ascertain the portion of the cord first affected by the stimulus, whether in the motor columns, the motor nerve-roots, or the centripetal fibers. Hoche performed his work at the site of the decapitation, not desiring to wait, as previously had been done, for the body to be carried to some convenient laboratory.

The electrodes employed in the first case were two metallic points, each 1 mm. in diameter. These were placed, without any pressure, upon the freshly exposed surface of the cord, and a fairly strong induced current was passed. The corpse immediately became animated, the arms were flexed, the hands clenched, the legs stretched out in tonic spasms, while the chest-muscles expanded the thorax as in inspiration. It mattered not at what part of the cut surface of the cord the electrodes were placed. The results were always the same during the first few moments and were always symmetrical. Twelve minutes after decapitation, the result of the same stimulation was entirely different. All the muscles remained perfectly motionless, with the exception of the neck-group, which also became gradually weaker and weaker. The peripheral nerves directly under the skin responded for seventy-five minutes to the current.

In the second case, the work was undertaken two minutes after the head was severed from the body. The electrodes were placed on a common handle about 1 mm. apart. The current was so weak that only the slightest effect could be felt. The electrodes were now placed on the left lateral column of the cord and were sunk into the substance about .5 mm. Contractions in both arms, somewhat stronger on the right side, immediately took place; and faint reactions in the intercostals and abdominal group were also seen. The legs remained motionless. It must be remembered that the stimulation was at the level of the fourth or fifth cervical vertebra. The result remained the same, whether the electrodes were placed on the right or left side, anteriorly or posteriorly, in the white columns or in the gray matter. Nine minutes after the death the reaction slowly lessened, and at sixteen minutes it was entirely gone. The peripheral nerves, however, remained active to the current for a much longer time.

If we compare the results obtained in these two cases we see certain resemblances between them—the most noticeable being the rapid and successive decrease in the sensitiveness of the nervous elements. The substance of the spinal cord remains sensitive to stimuli for twelve to sixteen minutes, the nerve-roots somewhat longer, while the peripheral nerves respond for a considerable time longer than either. These facts accord with the theory of Hitzig, that, beginning with the cerebrum, the sensitiveness of the component parts of the nervous system diminishes toward the periphery—that of the brain ceasing in the moment of death, and that of the peripheral nerves from one to two hours thereafter. Pathologically, those parts retained their activity longest which had their various filaments most thoroughly insulated. Furthermore, both cases agreed, inasmuch as no desired group of muscles could be influenced by choosing a special site of the divided cord for stimulation. It may also be easily deduced that the cause of the various muscular contractions was not due to direct stimulation of the motor pyramidal tracts, for, if that were the case, the leg-muscles would have moved in the second case as well as in the first. Therefore, it must be that the motor tracts lose their power to respond to direct stimulation immediately after death. The only supposition remaining which is at all tenable is that we have to do with a result which is chiefly reflex in character; the greater the current the larger the area over

[1] Berliner Klin. Woch., May 26, 1900.

which the contractions occur. Exactly how the effect is produced, however, must be the aim of further experimentation in this field.

SYPHILITIC AORTITIS AND ANEURYSM.

The relations of syphilis to the origin of aneurysms have not been definitely determined. The question is most complex. The pathogenesis of arteriosclerosis in general has to be considered, and our understanding of this subject is as yet principally based on theoretic considerations. We would naturally look to anatomic and histologic investigation for proof positive of the etiologic connection between aneurysm and syphilitic aortic lesions. But in the majority of cases arteriosclerosis and arteriosclerotic aneurysms in the syphilitic do not differ macroscopically and microscopically from the same processes in the non-syphilitic. Perhaps certain instances brought forward by Heller, who champions the existence of a pure, syphilitic aortitis that may give rise to aneurysms, constitute an exception to this statement. At the last meeting of the German Pathological Society in Munich, Heller again emphasized the importance of syphilitic aortitis in the etiology of aneurysms.[1] His strongest support is a case, examined in 1884 and described by Döhle,[2] of a pronounced syphilitic, 25 years of age, in whose aorta there were peculiar, circumscribed depressions—beginning aneurysms—in which the aortic wall was greatly thinned and wrinkled. The changes of ordinary arteriosclerosis were absent. There were foci of round cells about the vasa vasorum of these areas, with destruction of the elastic and muscular elements of the media, which in some places was replaced by scar tissue. These changes he regards as the result of a primary syphilitic aortitis. In other and similar cases he claims to have found miliary gummas with giant cells. When the changes are far advanced the aorta may also be greatly thickened, uneven, wrinkled from scars. Malmsten[3] and others have described similar lesions —"sclero-gummous aortitis"—and claimed that they may lead to aneurysms.

At the same meeting Straub[4] reviews his observations on the changes in the aorta in general paralysis. In 82 per cent. of eighty-four cases of general paralysis the aorta presented the changes claimed by Heller and others to be the result of syphilitic aortitis: a chronic proliferative aortitis, limited to the thoracic and the upper part of the abdominal aorta, characterized by a wrinkled, nodular thickening of the intima, radiating cicatricial depressions, and a tendency to obliteration of the openings of the branches; and microscopically by perivascular round-cell infiltration of the media, in some cases with numerous giant cells and gummatous formations. In a few of the cases were aneurysms with peculiar, sharply punched-out orifices. Of seventy-one non-paralytics examined during the same period changes in the aorta like these were observed but seven times, the seven instances all occurring, however, in syphilitics. As corroborative of the syphilitic character of this aortitis Straub cites, among other facts, the almost constant presence in the cerebral arteries of the changes first described by Heubner as syphilitic.

In the discussion Ponfick, Ziegler and Orth are incined to doubt the constant syphilitic nature of the aortitis described by Heller and by Straub because they had met with lesions of similar appearance in persons presumably free from syphilis. Ponfick, however, regards the changes in question as different from those of ordinary arteriosclerosis; he favors alcoholism as the cause, but brings no evidence in favor of this view. Chiari is somewhat skeptical as to the mesarteritis being the primary. Baumgarten has not seen the so-called gummous aortitis, and emphasizes the fact that the anatomic picture of syphilitic arteritis may be produced by other factors than syphilis. Hansemann, Beneke, and Babes believe that aneurysms may develop on the basis of syphilitic lesions, Beneke attributing a certain, ill-defined cellular weakness to the action of the syphilitic virus in consequence of which an artery so affected, e. g., the aorta, yields at the point of greatest mechanical pressure. Ziegler and also Babes believe that ordinary microbes, such as streptococci and staphylococci, may produce aortic lesions like those attributed to syphilis.

Taking it all in all, there is a great deal in favor of the existence of a peculiar syphilitic aortitis and consecutive aneurysmal formation, although much of the evidence is somewhat circumstantial in its nature. Perhaps we are not far away from the truth in regard to the rôle of syphilis in the production of certain aneurysms if we say "guilty but not proven."

1 Verh. d. deut. path. Gesellschaft, 1900, iii, 346-351.
2 Dissert., Kiel, 1885.
3 Cited by Heller, loc. cit.
4 Verh. d. deut. path. Gesellshaft, 1900, ii, 351-363.

THE UTILITY OF ALCOHOL AS A DISINFECTANT.

It has been much a matter of discussion whether alcohol is a bactericidal agent, and if it be, in what way it exerts its activity. When alcohol was first proposed for disinfection of the hands it was thought to be effective by acting as a solvent of fat, and thus preparing the way for the necessary intimate contact between the antiseptic solution and the epidermis. Later, bactericidal activity was ascribed to alcohol, and this was thought to depend principally on its dehydrating property. There are some observers, however, who believe that alcohol possesses doubtful, if any, antiseptic qualities. For the purpose of reaching an independent conclusion on this subject, Salzwedel and Eisner[1] undertook an experimental investigation, as a result of which it was found that a number of alcoholic solutions examined exhibited varying degrees of disinfectant activity, as compared with other well-known antiseptics, such as mercuric chlorid, carbolic acid, lysol, sapokresol. Silk threads, with dried bacteria, were employed as test-objects, the conditions encountered in actual practice being duplicated as nearly as possible.

1 Berlin. Klin. Woch., 1900, No. 23, p. 496.

It was shown that alcohol is with most certainty destructive to staphylococci contained in pus dried on threads, when employed in aqueous solution with a specific gravity of .902 at a temperature of 19 C., that is, about 55 per cent. (by weight) spirit. The disinfectant activity of this solution was not quite equal to that of one to one thousand mercuric-chlorid solution, but, on the other hand, it was not less efficient than 3 per cent. solution of carbolic acid. Lysol and sapokresol in 1 per cent. solution, as well as lysoform up to 4 per cent. solution, were always less active than mercuric chlorid, alcohol, and carbolic acid. It was found that alkalinized spirit is more effective than ordinary alcohol in its action on dry threads, while the addition of mercuric chlorid or carbolic acid had no distinct effect in increasing the disinfectant activity. A generous coating of fat on the threads seemed to favor, while a thin layer rather retarded, the action of the disinfectant. The application of gentle heat—30 C. or below—was thought to facilitate the disinfectant power. The time required for the manifestation of this effect varied with the period of desiccation to which the threads were exposed, the bacteria in fresh pus, for instance, being destroyed by mercuric chlorid, alcohol and carbolic acid in five or six, or even in three, minutes, while if the threads were exposed after an interval of weeks or months, disinfection was, as a rule, not accomplished in less than from eighteen to twenty-four minutes. The results were equally bad when the threads were prepared from pus that had itself stood for a long time. These effects are attributed to inspissation of the medium containing the bacteria, retarding access of the disinfecting agents. Similar results were obtained with bouillon preparations made in the same way. Bacteria dried upon threads and placed for a long time in pure alcohol, and in some instances kept besides in the thermostat or the autoclave, retained their power of multiplication; but bacteria in a moist state, on the other hand, were destroyed in a short time by absolute, cold alcohol. This difference in effect is attributed to the desiccating and coagulating action of alcohol.

It appeared that the spirit capable of penetrating the bacteria with destructive effect should contain from 50 to 55 per cent. of alcohol by weight, although weaker solutions are not without a deleterious influence on the bacteria. The development of staphylococci was inhibited by the addition of 70 per cent. of alcohol by volume to the nutritive medium, the phenomenon being analogous to the process of alcoholic fermentation, where the yeast is destroyed when the percentage of alcohol reaches a definite figure. It was found that the addition of an acid, such as boric, acetic, or hydrochloric, to the alcoholic solution augmented its disinfectant activity, but it was then discovered that the reaction of the threads was neutral or alkaline.

From the experiments outlined it is concluded that in addition to its desiccating action, alcohol exerts an especial toxic influence on bacteria. Although this toxic effect is much less than that of mercuric chlorid and carbolic acid, properly applied, it is, with regard to its disinfectant power, comparable with the latter two, occupying an intermediate position between them.

THE TREATMENT OF TYPHOID FEVER.

From the time, in the early part of the present century, when typhoid fever was first discriminated from a number of other diseases presenting in common with it typhoid symptoms, constant additions have been made to our knowledge of this, one of the best-studied of the infectious diseases. Not much, it is true, has been added to the original description of the anatomic lesions or of the clinical features, but, among other things, it has been made clear that the disease can not arise spontaneously, always requiring for its development the presence of the typhoid bacillus; that it may be unattended with pyrexia, and also with intestinal lesions; and, lastly, we have had developed the serum-reaction, by means of which the diagnosis can be confirmed with almost absolute certainty in the vast majority of cases. It is, therefore, perhaps not unreasonable to hope that we shall eventually come into possession of a specific therapeutic remedy. Recognition of the fact that the disease is largely spread through the agency of water contaminated by typhoid bacilli has also provided the physician with a powerful prophylactic weapon, with whose aid the morbidity has been greatly diminished, while the practice of systematic cold bathing has done much to lower the mortality.

In a discussion of the treatment, Rump,[1] in a recent communication on the subject of typhoid fever, after referring to the absence of any specific remedy, points out that not much is to be expected from intestinal antiseptics. Copious evacuation of the intestinal tract at the beginning of the disease by means of calomel may be secured. In the general management everything should be done that will contribute to a favorable course of the disease, and all injurious influences should be avoided. An airy, well-ventilated room should be provided, with suitable bed-covering, careful cleansing of the skin and the accessible mucous membrane, food appropriate to the state of the intestine, adequate administration of fluid, control of injurious temperature, and careful treatment of complications. Great proteid destruction, in consequence of the fever and possibly also of the action of toxic substances, should, so far as possible, be compensated for by food, especially fats and carbohydrates. The diet should consist of milk—cream—oatmeal soup with or without milk, rice soup, sago soup with or without beef-juice or soluble proteids. Eggs are often well borne in soup or in cognac. After the first afebrile week, zwiebach, eggs, scraped meat and roast fowl may successively be permitted. In case of relapse a liquid diet should be resumed. Sufficient liquid should be administered—from two to three quarts a day. The

1 Berliner Klin. Woch., 1900, Nos. 23 and 24.

fever may require treatment with cold water, which exerts a favorable influence also on the circulatory and the nervous system and the functions of the kidneys.

LEGALIZING CLAIRVOYANTS.

It is said that there are between eight and ten thousand clairvoyants in Chicago. Whether this is true or not we are not prepared to say, but judging from the number who advertise in the papers and from the number of signs scattered over the city it is quite probable that the number is not overstated. Some of the leaders among them have presented an ordinance to the city council providing that clairvoyants shall hereafter pay a license fee of $800 a year. This is for the purpose of regulating things so that there shall not be as much "promiscuousness" as now seems to prevail; in other words, they desire to limit the number. What a joke it would be if the city council of the great and enlightened city of Chicago should pass this measure and thus legalize this modernized ancient method of swindling! And stranger things have happened in city councils.

A DIPLOMA-MILL ALL RIGHT IN TEXAS.

At last there is an opening for those individuals who bought diplomas from the so-called Independent Medical College of Chicago and from similar institutions. The diploma-mill parchment is just as good as anything else in the great State of Texas, and we may now expect to see these ready-made doctors rush thither. In our Medicolegal Department this week will be found a decision rendered by the Court of Appeals of Texas, which, divested of its legal verbiage, means that when an institution has been chartered by authority of the laws of a State and its charter gives it the right to give out diplomas, Texas recognizes such as genuine, and the holder can practice medicine in that State without infringing on the laws. Accordingly it makes no difference whether a man has studied medicine, whether he has attended a medical college, or, in fact, whether he knows the first principles of medicine or not, if he can show a parchment from a chartered medical college he is all right in Texas.

INTERNATIONAL CONGRESS OF THE MEDICAL PRESS.

The recent International Congress of the Medical Press appears to have been largely given up to discussion of technical and quasi-legal subjects, such as copyright, the author's property in his ideas and the form of their expression, the classification of medical subjects, exchanges, the ethics of advertisements, etc., the use of *noms de plume* by medical writers, etc. Though the program was rather a full one, it happened that some of the promised papers defaulted, or at least were passed or crowded out. The question of advertising puffs appearing as contributed articles was discussed among other matters, and it appears that they suffer abroad from this evil as much as here. The disclaimer, of one or two of the German delegates, of its existing in Germany was undoubtedly honestly made, but our Teutonic brethren suffer at least in one way, their articles are freely used as advertising puffs of German products in this country, and their countrymen engaged in manufactures are especially active in this direction. Another bad practice noticed by the Congress that seems more common abroad than here, is the use of pseudonyms with the prefix "Doctor" attached, and this was condemned by resolution. On the whole the results of the Congress seem to us somewhat disappointing, as there was very much that might have been brought before it that was not. The proposition of an international medical press association to cultivate fraternal relations to represent the common interests and to formulate regulations seems to be a promising one, though there may be difficulties in the way. It is to be regretted that no Americans took part in the discussions, as we think they might have added to their interest.

AGAIN THE QUESTION OF CANCER.

Czerny[1] considers the etiology of malignant tumors in general for the special purpose of pointing out prominently some of the reasons which favor the parasitic theory. In addition to a predisposition, there must be some active and exciting cause of malignant tumors. It is emphasized that cutaneous carcinomas occur almost exclusively in the face and hands and that the covered parts of the skin are nearly always immune; in the digestive tract localization occurs especially in recesses of various kinds, in scars and ulcers; the well-known frequency of carcinoma in the vicinity of orifices may find its reason in the mechanical lesions, the eczemas, fissures, and scars, as well as the uncleanliness of these regions; the genitalia, both male and female, furnish numerous conditions, which may be regarded as of predisposing moment. Czerny lays stress on pedantic cleanliness, especially of some regions, as a probable preventive measure against carcinoma. As regards sarcoma, it is recalled that many forms of this tumor resemble much inflammatory new formations and that a tumor of such varying nature probably does not depend on a single agent, but on several different causes. So far, it can not be said that transplantation experiments lend much support to the parasitic theory of malignant tumors. Undoubted cancerous diseases may undergo a spontaneous retrogression—a fact which should stimulate the search for a specific treatment. Czerny's general conclusion is that such facts as those referred to above speak in favor of cancers being caused by external agencies and that the parasitic theory, though resting on a slender basis, has just as much justification as the other hypothesis and carries with it greater hope for prophylactic and therapeutic measures.

ALLEGED ARMY MEDICAL ABUSE.

A lady, Miss Margaret Astor Chanler, whose name suggests an amateur in philanthropy, according to the press reports, has sent to the War Department a severe criticism of the Army Medical Service in the Philippines, charging that there is a lack of surgeons, a lack of nurses, of medical supplies, etc., and asking that she be allowed at once 500 bed sheets for distribution. Copies of her complaint have been sent also to various persons of social prominence and thus a foundation for a sensational investigation is laid. The Surgeon-General of the Army, to whom the communication was referred by the Secretary of War, has, it is said, prepared a com-

1 Beiträge zur Klin. Chir., 1899, xxv, 243.

plete refutation both of the medical service in general and of the specific charges in particular. The original communications of Miss Chanler and Dr. Sternberg's reply have not been given to the public *in extenso,* but the correspondence is said to be spirited. We would be sorry to believe that there are any serious abuses in the army medical arrangements in the far East, but we can easily imagine that one going predisposed to find fault might find a pretext. In the matter of sheets, which seems to be one of the special points of criticism, there might readily be an apparent defectiveness and yet no very serious hardship to anyone, certainly not to a seasoned soldier convalescent. As the charges were made, it is said, only two days after the lady's arrival at Manila, it might possibly be inferred that they are not based on any very wide observation or well-considered experience. In any case, we believe that the medical department will make a good showing in reply to them and we trust that they are only the undigested impressions of a dilettante amateur nurse, too ready to make charges on insufficient evidence. So far as learned, the critic does not specify real abuse other than possibly a deficiency of medical and nursing attendance, which might easily be temporarily unavoidable under special conditions.

CLUB AND LODGE PRACTICE.

In our abstracts of foreign literature in this issue is noticed a paper by a leading Belgian physician, Dr. Cuylits, which was one of the features of the recent Congress of Professional Medicine. In it he lays down a plan to harmonize the interests of the medical profession and certain tendencies of modern life that is at least worthy of consideration. The present is an age of combinations of every kind, all self-interested and liable to be in conflict with other interests. Among these organigations are those created for the sole purpose of preying upon the medical profession, to secure its services at the least possible remuneration. The idea of justice to the doctors never enters into the consideration of these "benevolent" societies; they are not even intelligently selfish, for they do not recognize the fact that a product can not be continuously furnished at too cheap a rate without the quality of suffering in the long run. This evil of club or lodge practice has not yet been fully felt in this country, but it is upon us and has a fertile soil on which to grow. If one-half of the population of Belgium are thus receiving medical care gratuitously, or very nearly so, what are not the possibilities in a country like this, where the medical competition is so much greater and where the profession is in such a disorganized condition? The remedy proposed by Dr. Cuylits—a minimum medical tariff allowed by the profession to members of the benefit societies that admit none capable of paying more, the individual physician's liberty of declining such practice moreover being unrestricted—is worth considering in regions where club practice has already a standing, as in Belgium and Great Britain. In this country, however, it will be better to discourage its beginnings rather than to compromise with it. There is nothing unethical in physicians organizing for their own protection against such attempts to exploit them to their disadvantage, and it is suicidal not to do it where the danger threatens.

GLYCOSACHTHEMIA.

Glycosachthemia is the name proposed by Prichard and Colbeck[1] for the condition of the system due to overloading with carbohydrates and their resultant defective metabolism. We have long assumed that the gouty or lithemic state is due to defective metabolism of nitrogenous substances, but, hitherto, as they remark, the symptoms associated with defective metabolism of nitrogenous bodies have received no distinctive name, except in the extreme cases of glycosuria and diabetes. They think it unnatural, however, that an organism phylogenetically, and actually to a large extent, carnivorous, should be subject only to the evil effects of such diet and not to effects of the excess in other directions certainly not less foreign to its nature. The authors trace up the carbohydrates in the system and take up a single group of the neutralized cleavage products that result, the lactates, as an example, and follow out the pathologic processes that are likely to ensue if the eliminative organs are too severely taxed or any of them are disabled in their normal functions. The symptoms they thus deduce are practically those of rickets in the infant, of rheumatism in the youth and the adult, and diabetes in advanced life. They claim that clinical evidence favors their theory, that it is usually easy to prove a previous excess of carbohydrate food in rickets and of similar indulgence in rheumatism and diabetes. Further support is claimed from the therapeutics of these disorders as the effective measures are those that would be rationally prescribed for carbohydrate saturation. The observations which they have themselves been able to make are clearly in its favor, though they have not yet been able to accumulate sufficient clinical facts to carry much weight. In conclusion, they remark that while they have endeavored to clearly distinguish between lithemia and the condition here described, they have not attempted to indicate the effects of the possible reactions and interactions of their respective metabolites, which must occur in diseased conditions. Their article is a suggestive one, and while the chemistry of the complicated animal laboratory is often vague and speculative and lends itself readily to theory, it appears possible that the ideas here offered may be fruitful. Whether glycosachthemia will take rank with lithemia as a morbid entity and be as prolific of medical literature is doubtful, although it is a question for the future to decide.

Medical News.

THE BRITISH MEDICAL ASSOCIATION will meet next year at Cheltenham, under the presidency of Dr. G. B. Ferguson of that city.

THE AGENT at the Devil's Lake Indian Reservation in North Dakota has telegraphed the Department of the Interior that smallpox has broken out among the Indians and that there are now twenty-four cases on the reservation.

THE BOARD OF CONTROL of the National Red Cross Association, at a meeting in Washington, August 11, discussed the attitude of the Association in case of a declaration of war between China and the allied powers.

1 The Lancet, July 28.

It is probable in this contingency that the association will co-operate with the Red Cross Association of Japan.

MEDICAL MEN in the employ of the Russian government were forbidden to attend the Polish Congress of Physicians and Naturalists, soon to meet at Waraw. In reply to a protest from the committee of organization of the congress, the war department explained that military medical officers must remain at their posts owing to the pending military operations, and can not be spared to attend any congress at present.

THE CENTENARY FESTIVAL of the Royal College of Surgeons, of England, was celebrated in London July 25 to 27 under the presidency of Sir William MacCormac. Honorary fellowship was conferred on thirty-four eminent surgeons of Europe and America. The honor was acknowledged, on behalf of themselves and their respective national colleagues, by Professors von Bergmann, Durante, W. W. Keen, Lannelongue and Pachoutine. Professor Keen, among other well-selected and pointed remarks, said: "We come to you as representatives of four of our great institutions of learning—from Harvard, hoary with the snows of nearly three centuries, to Johns Hopkins in the lusty youth of less than three decades. As President of the College of Physicians of Philadelphia, I represent also the oldest institution in America at all similar to your own, a corporation which includes surgeons as well as physicians, and which was already in its teens when the Royal College of Surgeons was founded. On behalf of these and all our medical institutions we bring you our heartiest greetings on this festal occasion in the name of sound learning and accurate scholarship. . . . To show you how swift has been our progress and yet how young we are, I need but recall the fact that this college was nearly forty years old before the name of Chicago, now a city of nearly two million people, ever appeared upon the map; and when you were founded, beyond the fringe of civilization on the Atlantic coast the only inhabitants of the vast region from the Alleghanies to the Golden Gate were the buffalo, the bear, and the savage Indian. But though so young, we come not empty-handed. Three great medical advances mark the past hundred years—vaccination, anesthesia and antisepsis. The first and third of these are yours, but the second—anesthesia—is the gift, better than Magian gold and frankincense and myrrh, which to-day America lays on the altar of science. Before that historic date, Oct. 16, 1846, the poor victims of the knife were bound hand and foot and held in the grasp of sturdy men, but hand and cord could not repress the fearful outcries which filled the air. But at Warren's touch the thongs fell off; he spoke, and the stormy billows of this Gennesaret of pain were stilled; the peaceful blessed sleep of ether hushed every cry of pain. Then first was moden surgery made possible, and what was made possible by our Warren was made safe and successful by your Lister—no, not your Lister, but our Lister, for his name belongs to no age and no country, but to humanity. It is therefore with a special fitness that to-day you have conferred your Honorary Fellowship upon the distinguished grandson of him who first demonstrated the blessings of ether to the suffering world."

LEPER COLONY IN THE PHILIPPINES.—General McArthur has convened a board, consisting of Major Louis M. Maus, surgeon, U. S. A.; Capt. George P. Ahern, Ninth Infantry, and Capt. W. E. Horton, assistant quarmaster, to select an island in the Philippine archipelago for the segregation of lepers, to prepare plans and estimates for suitable buildings thereon and estimates of salaries for the necessary officials and employees. The board is also charged with fixing the ration and other allowances for the support of such leper colony. This action was taken in view of the large number of people in the Philippines afflicted with leprosy, who are reported as a menace to public health.

PENNSYLVANIA.

TWO PITTSBURG physicians, Drs. R. M. Sands and R. C. Clark, are making a European tour by way of the Azores.

DURING the past week the number of children sent to the country by the Children's Country Week Association was about 400. They were taken to the different suburban towns.

HENRY HOFFMAN, who is said to have been the oldest resident in Pennsylvania, died at his home in Hazleton on August 8, aged 105 years. He was a woodchopper by occupation.

FROM August 7 till August 11 the heat which prevailed all over Pennsylvania was most oppressive. In Pittsburg on August 9, 5 deaths resulted from this cause and on the 11th two heat prostrations occurred. The government thermometer registered 98 F. on that day, the highest on record. Other deaths occurred in Reading and Linfield.

THE 10,500 soldiers now in camp at Mt. Gretna were threatened a few days ago with a water famine, caused by vandals, who cut the pipes and twisted the spigots, permitting the water to run to waste. Owing to the intense heat which prevailed there, some of the drills were abandoned. On August 7, 200 prostrations were reported. No deaths have so far occurred.

THE CONSTITUTIONALITY of the Act of Assembly of this State regarding the sale of oleomargarin has been questioned and the Supreme Court of the United States will be called upon to decide the question. This action has been taken by counsel representing a number of offenders against this law, and who have been recently tried and convicted in Philadelphia. The special clause in this act which has been questioned is that which prohibits "the sale of oleomargarin if it contains any coloring matter, and is not free from ingredients which make it look like butter." This clause, it is claimed, is in conflict with the Constitution of the United States.

Philadelphia.

DR. L. WEBSTER FOX will spend the summer in the woods of Maine.

DR. WENDELL REBER is spending a few weeks at Grand Pré, Nova Scotia.

MESSRS. DREXEL AND COMPANY announce that the total amount of money received by their firm up to August 7 for the Indian Famine Fund is $4,098.16.

DURING THE YEAR the Ayer Clinical Laboratory has been opened and in charge of Dr. Henry W. Cattell, assisted by a corps of workers. The electric plant which has supplanted gas has proved cheaper and more satisfactory.

THE REPORT of the Pennsylvania Hospital shows that during the last twelve months 35,195 patients have been treated in the institution; that its income was $754,464.69, and its expenses about $100,000 less.

THE number of deaths occurring in this city during the week ending August 11 was 452, an increase of 13 over the previous week, and an increase of 7 over the corresponding period of last year. The principal causes of death were: Apoplexy, 12; cancer, 20; cholera infantum, 47; tuberculosis, 56; suicide, 4; diphtheria, 46 cases, 7 deaths; scarlet fever, 29 cases, 2 deaths.

MEMBERS of the Building Committee of the City Hall of Philadelphia are making an estimate of what it would cost to install an ice-water supply from a central source to extend to all the different rooms of that building. The proposed plant is estimated to cool 50,000 gallons of water a day and is expected to cost $45,728.50, exclusive of labor. According to this plan there would be four-inch pipes to carry the water to the seventh floor and one-inch pipes to distribute the water to the different rooms.

DURING the past week there appears to have been a mild epidemic of catarrhal conjunctivitis or, according to the papers, "pink eye." The disease is attributed primarily to the hot weather and draughts and dust encountered on the trolley cars, which produce cold. The dust is supposed to act as the exciting cause of the conjunctivitis.

THE SANITARIUM ASSOCIATION reports that during the 44 working days there have been 115,652 persons seeking admission. This is an average of 2628 per day. The adults numbered 15,891; infants, 13,128, and children over 2 years, 86,633. Of bathers there were 14,654 boys, 16,446 girls, and 2466 infants; 61 mothers and infants were admitted to the hospital.

TWO AMBULANCE collisions occurred in one day during the past week. The first was that of the St. Joseph's Hospital and was caused by the horses plunging into an excavation in a street crossing and throwing the resident physician, Dr. Butler, to the ground, slightly injuring him. The ambulance was badly damaged. On the same day, while the ambulance of the Germantown Hospital was returning home with a patient, a trolley car filled with children plunged into the ambulance, throwing the horses, which afterward attempted to run away, but were caught by a patrolman.

THE 149TH ANNUAL report of the Pennsylvania Hospital has been issued and is as follows: New patients received in the wards, 4,079; total number treated in the wards, 4,345; patients remaining May, 1900, 274. Patients admitted to receiving ward, 19,174. Number of cases treated in dispensary: surgical, 9,893; medical, 2,466; eye and ear, 2,092; nose and throat, 918; gynecological, 329; mental and nervous, 49; orthopedic, 8; total, 15,755. Total number treated in receiving wards and dispensaries, 35,195. The ambulances have made 1,401 calls during the year. During the past year there were 435 more admitted to the wards of the house and 3,412 more treated in the receiving wards than last year.

ILLINOIS.

DR. ADAMS, of Ann Arbor, will succeed Dr. Guy W. O. Mitchenor in his practice in Kansas, Edgar County.

THE CITY CHEMIST has analyzed the drinking water used at the Midlothian Club, and has found the main supply to be of good quality, and consequently not the cause of the recent cases of alleged typhoid fever.

DR. JOHN G. BYRNE, who served with the Second Illinois Infantry, U.S.V., in the Spanish-American war, and afterward became an acting assistant-surgeon in the army, is reported to have received a wound in the arm at Sinaloan, Luzon, P. I., on July 26.

COUNTY ORGANIZATION.

The spirit of organization is evidently prevailing in this State. Seven new county societies have been established during the last nine months, and as many more it is expected will be organized soon. The officers of the state society are anxious to have an active society in every county in the state.

THE REGENT CASE.

Dr. Michael N. Regent, on August 10, was found guilty of conspiracy to obtain money by false pretenses and was sentenced to imprisonment in the penitentiary and a fine of $1,000. This opens up a history of fraud in fraternal insurance. It is reported that other fraternal insurance societies have been defrauded in a similar way, and that when the prisoner's present indeterminate sentence is concluded he will be held on other charges. Dr. Regent is said originally to have borne the name of Regentovitch, but was authorized to drop the two last syllables of his name, thereby de-Russianizing it. He is a graduate of an electic college of 1888. The crime of which he has been convicted was a fraud on the Knights and Ladies of Security, a fraternal society of which he was medical examiner. In January, 1898, James O'Grady, uncle of a co-defendant, an aged and infirm man, was proposed for membership in Illinois Council. He was examined and passed by Dr. Regent, duly admitted, and a policy issued. On November 28 his death was reported, death proofs filed and the claim paid. O'Grady was still alive and had no knowledge that he had been a member of the order or that his death had been reported. On account of a quarrel over the division of spoils, the matter became public and one of the conspirators, O'Grady's niece, turned State's evidence.

HEALTH DEPARTMENT.

The records of the department show that in the matter of prophecies it is far and away ahead of the official forecaster, for in the bulletin of June 25 it was announced that "there is reason to apprehend that a heated term of unusual intensity will follow"—and it did. The heat instead of being localized in this region, however, was general, even the Lake Superior region sharing in it. The heat wave, which began its march in Australia in 1899, reached the Argentine Republic in January last, in the spring reached continental Europe and Great Britain, and then came to this section via North Dakota. The progress of this heat wave was marked by higher temperature than had been previously recorded, and consequently by an increase in the heat accidents. In Buenos Ayres, for instance, 410 deaths occurred in three days and the temperature in the shade ranged for several weeks from 107 to 117 F. In the heated term, now happily passed, the temperature exceeded 90 F. for eight successive days. The deaths for the week were, however, only 18 in excess of the previously recorded highest mortality, which was for the week ended July 15, 1899. The department attributes this comparatively low mortality to the coolness of the last weeks in July, which retarded the rise of ground temperature, upon which depend so largely the zymotic and hot-weather diseases, especially of infants and children.

The mortality for the week ended August 11 was 577, or 93 more than the preceding week, and 87 more than the corresponding week of 1899. The annual death-rate per thousand was 17.18. Of males, 309, and of females, 268 died. Under 1 year, 190 died; between 1 and 5 years, 85, and over 60 years, 94. The principal causes of death were: Acute intestinal diseases, 172; consumption, 56; nervous diseases, 47; heart diseases 29; cancer, 24; violence, 22; Bright's disease, 18; pneumonia, 18; sunstroke, 14; suicide, 9; typhoid fever, 9; apoplexy, 8.

During the week 611 births were reported; 319 males and 292 females. In the contagious disease division, 16 cases of scarlet fever and 15 of diphtheria were reported. At the stockyards 26,170 pounds of meat were condemned. Specimens of milk numbering 112 were brought to the laboratory, 5.92 per cent. of which were found to be below grade.

MARYLAND.

THIRTY-ONE cases of smallpox have been treated at the quarantine hospital during the spring and summer without a death.

DR. L. MCLANE TIFFANY, after spending two months at his country place, Mt. Curtis, eastern shore of Virginia, has gone to Beverley Farms, Mass.

THERE were 137 deaths here in the 5 days from August 5 to 9, inclusive; of these, 43 per cent. were due directly to the excessive heat, which was higher here than at any other place in the country.

IN VIEW of the prevalence of typhoid fever, 11 new cases having been reported, the Health Commissioner has given a warning to the citizens to boil the drinking water and filter it through absorbent cotton.

OUT OF 178 applicants for appointment as patrolmen on the police force, 89 have been rejected by the Board of Police Surgeons. About 25 per cent. failed on account of height, weight, and chest measurement; 2 per cent. on account of eyesight. The principal diseases found were heart disease, Bright's disease, varicose veins, and consumption. Four had flat feet. One, thought to be perfectly sound, showed tubercle bacilli in his sputa. There are many applicants for the vacancy caused by the resignation of Dr. William B. Burch.

ALLEGED CRUELTY IN A SANITARIUM.

THE grand jury is investigating a case of alleged cruelty to a young white woman at Dr. Flora A. Brewster's asylum. Dr. Percy M. Wade, of Spring Grove Asylum for the Insane,

who has been in charge of 500 patients there for the past ten years, says they have neither chain, handcuffs, muffler, nor even a strait-jacket. But one man is ever confined to his room, and it is necessary in his case because he is given to running away. Among all the criminal insane there are none treated with mechanical restraint. Such patients are treated much like children. There are two attendants in wards of 30 patients, and one in those of 10. In the ward of criminal insane, with 28 cases there are three attendants. At night they sleep 5 to 10 in a room, with an attendant, not in the room, but near at hand. If a patient needs constant watching, an attendant looks after him exclusively. For private cases the charge is $7 per week, and at the Sheppard Asylum a good room can be obtained for $10 per week. Outdoor life is encouraged and many patients work on the farm. Amusements are provided and are looked forward to by the patients with pleasant anticipation.

Dr. Edward N. Brush gives similar testimony at the Sheppard and Enoch Pratt Hospital. He has never seen a strait-jacket except in pictures and has never seen a patient, either male or female, chained. Some medical superintendents have gone to the extent of adopting a rule of absolutely no restraint, but the more conservative agree that restraint is sometimes necessary and humane. If restraint be necessary for the hands it should be an endless sleeve, which confines the hands in front in an easy position; this and the padded cell for frenzied patients are all that are necessary. It is never necessary to have more than one attendant to a patient, except in very violent cases. At the Sheppard there is about one attendant to four patients, but the number could easily be diminished.

Dr. Flora A. Brewster was presented by the grand jury on the 10th inst. for violating the State lunacy law by treating an insane patient without license in her private sanitarium. Dr. Brewster was released on $500 bail. The case will be before the grand jury again when the question of indicting comes up.

MICHIGAN.

DR. JOHN L. WILLIAMS, of Shawnee, Wis., who had practiced for twenty-eight years in that city, has located in Menominee.

DR. LEWIS F. BLEAZBY, of Detroit, has been appointed acting assistant-surgeon in the army and has started for his post of duty in China.

THE MEDICAL men of Detroit held a meeting at the Cadillac House on August 16 to organize, if possible, a business association to include physicians of all schools recognized by the medical practice act.

"DOC" NAEGELE, who had charge of the anatomical laboratory of the University of Michigan for more than half a century, and who made himself an excellent practical anatomist, died at Ann Arbor July 28.

MORTALITY FOR JULY.

There were 2,509 deaths reported to the secretary of state for the month of July, corresponding to a death rate of 12.4 per 1,000 estimated population. This number is 216 more than the number of deaths for the preceding month and 110 more than the number registered for July, 1899. There were 561 deaths of infants under 1 year of age, 141 of children aged from 1 to 4 years and 611 of persons aged 65 years and over. Important causes of death were reported as follows: Consumption, 134; other forms of tuberculosis, 42; typhoid fever, 36; diphtheria and croup, 10; scarlet fever, 18; measles, 14; whooping cough, 28; pneumonia, 84; diarrheal diseases of children under 5 years of age, 278; cerebrospinal meningitis, 24; cancer, 108; accidents and violence, 197. A considerable increase was shown in the proportion of deaths of infants under 1 year of age corresponding to an increase in the number of deaths from diarrheal diseases. All the other causes of death were nearly stationary or showed slight amounts of decrease except pneumonia, which was only about 50 per cent. of that of the preceding month. There were 2918 deaths in Indiana for the month of July, corresponding to a death-rate of 13 per 1000, indicating a considerably greater increase of mortality with the approach of warm weather than attained in Michigan.

OHIO.

DR. W. C. MABRY, formerly of Cleveland, has been made an acting assistant-surgeon in the army, and will probably be ordered to China.

DR. A. W. DUMMERS, Columbus, who was recently appointed an acting assistant-surgeon in the army, has been ordered to Manila via San Francisco.

DR. F. C. GRIFFITHS, Mount Carmel, is on his way to the Philippine Islands, where he has been ordered as acting assistant-surgeon in the army.

THE EAST SIDE physicians of Columbus are attempting to form a protective association against the professionals and amateurs who avoid paying bills for medical services.

DR. J. F. EDWARDS, Portsmouth, has been appointed acting assistant-surgeon in the army, and has been ordered to report for duty with the 7th Infantry, now on its way to China.

DR. W. E. LOWER, Cleveland, has received an appointment as acting assistant-surgeon in the army and has been notified to report at San Francisco for duty with the United States forces in China.

THE YOUNG physicians of Columbus are considering the advisability of forming a young physicians' academy of medicine, wherein they can hold informal discussions untrammeled by the older members of the profession.

THE HEAT in Ohio exceeded all records on August 11, when 99 F. was registered in Toledo. Three deaths from sunstroke or heat prostration are reported from that city, 2 from Fremont, 2 from Sandusky, and 1 from Marblehead Junction.

MASSACHUSETTS.

DR. E. S. SMITH has been appointed town physician of Springfield.

DR. JAMES W. HOLLAND, Springfield, has been appointed acting assistant-surgeon, U. S. Army.

DR. BERNARD F. MCGRATH, Beverley, sailed for Europe August 9. He expects to be absent a year.

THE COMMITTEE on sewage disposal at Pittsfield presented its plans of intermittent filtration to the state board for its approval.

DR. D. B. MANCHESTER, Beverley, has gone to Europe for a year's study, and on his return will practice in New York State.

DR. H. W. HILL, bacteriologist of the board of health, has, according to report, completed an examination of two cultures received from Johns Hopkins University, sent to Baltimore from the University of California, and which were taken from a Chinaman who was supposed to have the bubonic plague. Dr. Hill developed the cultures and inoculated a white rat. The rat died in three days. Afterward the bacilli were taken from the tissue, and the results obtained were typical of bubonic plague. Dr. Hill has forwarded to the University of California his opinion that the bacilli are those of bubonic plague.

NEW JERSEY.

AT A meeting of the Burlington Board of Health, held on August 10, the following officers were elected: President, F. S. Carter; treasurer, Dr. G. B. Cassady; secretary and solicitor, Franklin C. Woolman; inspector, William M. Jeffries.

THE PUBLIC BATH COMMISSION, of Camden, has recently made a visit to the bathhouses of Philadelphia and was so much impressed with their usefulness that it will recommend to the council the erection of a bathhouse for Camden to cost about $6,000. The exact site for this house has not been chosen.

THE TRENTON BOARD OF HEALTH adopted resolutions declaring tuberculosis an infectious disease and is considering an ordinance compelling physicians to report cases such as is done in the case of smallpox and diphtheria. It has been cited by one of the members that ordinances of a compulsory nature in other states have done but little good and some

opposition has been encountered. The Board of Health has agreed that the signs warning people against expectorating in public thoroughfares have not been effective and an ordinance has been introduced making this a criminal offense.

THE ORANGE physicians are charged with being delinquent in making reports of contagious diseases to the local board of health. The births for July were 39 and the deaths 44.

THE GOVERNOR has appointed Dr. H. W. Elmer, Bridgeton, a member of the State Board of Health to succeed Dr. Franklin D. Gauntt, deceased. Dr. Elmer was graduated from the medical department of the University of Pennsylvania in 1870.

CALIFORNIA.

ALL EXCEPT two of the medical inspectors of the state were discharged by order of the state board of health. The two remaining are on duty in Chinatown, San Francisco. The board decided not to declare quarantine against Jackson, Amador county, as the smallpox there is of a mild type and as the cases are segregated.

EXTENSIVE sanitary improvements have been made at the Presidio General Hospital which will make it one of the most completely equipped military hospitals in the country. The changes include a complete system of ventilating, steam heating, electric-light plant, laundry, disinfecting apparatus, ice-making machine and refrigerator.

THE REPORT of the Los Angeles health office for July shows 134 births. The mortality for the month was 166, the chief causes of death being: specific infectious diseases 31; digestive diseases, 22; respiratory diseases, 21; nervous diseases, 15; constitutional diseases, 16; intoxicants, violence and accidents, 11. The apparent excess of deaths over births is probably due to the failure of physicians and midwives to report births to the health office.

MINNESOTA.

THE STATE examining board caused the arrest of B. F. Felson, Minneapolis, who is charged with practicing medicine without a license.

THE THIRD annual commencement of the attendants' and nurses' class at the School for the Feeble-Minded at Faribault, was held on July 27.

THE POSTMASTER of St. Paul has put a veto on the appointment of a special post-office physician. Even the fact that Minneapolis is so supplied does not suffice to swerve him.

THE HOUSE PHYSICIAN and the head nurse of the City Hospital, Minneapolis, who were arraigned for breaking quarantine by Dr. Charles Norred, quarantine officer, were released because of the uncertainty of the officer's exact status.

HENNEPIN COUNTY MEDICAL SOCIETY decided, at a meeting August 3, to accept the offer of the Andrus building, of quarters on the tenth floor. This will entail the removal of the library of the society from the public library and rental of the entire eighth floor and the balance of the tenth floor to physicians, dentists or pharmacists.

NEW YORK.

THE MEDICAL building for the Cornell College of Medicine at Ithaca, which is in process of erection, will cost about $100,000 and will be a model of its kind. When completed Cornell will have facilities for instruction in medicine second to none in the country. A large attendance is already assured.

New York City.

DR. S. A. KNOPF is rusticating in Maine.

DR. HOLBROOK CURTIS has gone to Europe for the summer.

DR. EMIL MAYER is taking his vacation yachting off the Maine coast and on the northern waters.

THE TRUSTEES of St. Catherine's Hospital are endeavoring to raise $12,000, the balance of $30,000 necessary to complete an annex to the building.

ON SATURDAY, August 11 the temperature reached 95, but had ranged above 90 for almost the entire week. On that day 30 persons died from sunstroke or heat exhaustion. During the week the patients between six months and two years of age at the Bellevue Hospital dispensary alone averaged 65 a day.

MONTANA.

HELENA has a record for health not excelled in the United States, so says Health Officer Leslie Sulgrove. The June death-rate is said to have been only 1 to the 1000 of population. Of the 13 deaths reported, 6 were males and 7 females; 2 were under 1 year of age, 1 under 5 years and 1 between 50 and 70 years. Consumption caused two deaths.

THE ATTORNEY-GENERAL, in reply to a question respecting the status of osteopaths, has rendered the following decision: "An osteopath in practicing his calling is liable for the payment of a license. An osteopath, I believe, is amenable to the medical law of this state, and could be prevented from engaging in the practice of osteopathy unless a license was secured to do so from the medical board. The fact, however, that such a license is not secured does not relieve the practitioner from complying with the provisions of the license law."

KENTUCKY.

DR. HENRY E. TULEY, Louisville, is spending his vacation with his family at Woodmont, Conn.

DR. THORNTON PERKINS, Louisville, has received an appointment as acting assistant-surgeon in the army.

DRS. H. H. GRANT, J. M. MATHEWS and L. S. MCMURTRY are in New York City with President-elect C. A. L. Reed of THE AMERICAN MEDICAL ASSOCIATION.

THE PRESIDENT of the Lexington Board of Health, Dr. Frank O. Young, was made defendant in a suit for malicious persecution and false arrest filed by Dr. A. P. Taylor, August 3. Dr. Taylor claims $10,000 damages.

INDIANA.

DR. T. J. SPILLMAN, JR., has moved from Andersonville to Connersville.

AT A MEETING of the Terre Haute board of health, a final report was made on the smallpox epidemic and the results thereof. It was announced that all expenses due to the epidemic had been paid.

THE DEATH of four infants at the Orphans' Home at Indianapolis has caused the city board of health to ask the coroner to investigate the matter. The deaths are claimed to have been due to formaldelyde used as a preservative in milk.

KANSAS.

DR. NATHANIEL M. SMITH, of Chase, has removed to Marion.

THE SCHOOL OF MEDICINE of Kansas University at Lawrence will occupy the old chemistry building, which is now being remodeled and refitted. It is to be known as "Medical Hall."

DR. SWAN, secretary of the State Board of Health, reports that the smallpox epidemic is practically stamped out. Three cases still exist in Sumner county and two in Shawnee county, but no apprehension regarding the spread of the disease is felt.

MISSOURI.

DR. ERNEST F. ROBINSON has returned from his army service in the Philippines and will take up the practice of medicine in Kansas City.

THE ADDITION to University Medical College, Kansas City, will be completed by October 1. It will be four stories high and will contain the dispensary, a large amphitheater, and chemical, pathologic, and microscopic laboratories.

NEW HAMPSHIRE.

IN MANCHESTER, Dr. F. G. La Fontaine was arraigned for practicing medicine without a license from the State Regent. There is a large French population in the city; Dr. La Fontaine is French and his patients are French, and still he was obliged to take an examination in English, an unfamiliar language. He is a graduate of Laval University Medical Department, a highly esteemed Montreal institution.

DISTRICT OF COLUMBIA.

MORE THAN fifty bids have been received by the District Commissioners for a site for the new municipal hospital in Washington, for which $100,000 was appropriated by Congress.

WASHINGTON was the hottest city in the United States on August 11, the official thermometer at the weather bureau registering 101 F. The humidity was fortunately exceedingly low so that few prostrations were reported.

IOWA.

A NEW HOSPITAL, known as the W. C. Graham Protestant Hospital, will soon be opened in Keokuk, in the old Mercy Hospital building. The philanthropy of Mrs. Helen M. Comstock has made the organization of this hospital possible. It will be under the control of Drs. F. B. Dorsey and P. J. Payne, of Keokuk, and Dr. D. D. Nice, of Bowen, Ill., who comprise the board of medical directors.

OKLAHOMA.

DR. W. P. BAKER, of Guthrie, surgeon-general of the territorial militia, a West Point graduate, and a veteran of the Spanish-American war, has been appointed acting assistant-surgeon in the army, and will leave for China in a few days.

LOUISIANA.

THE FOLLOWING New Orleans physicians are taking their summer outings in Europe: Thomas A. Dabney; Felix A. Larne; Felix Formento and C. W. Heitzman.

COLORADO.

DR. C. J. AMMERMAN has been appointed local surgeon of the Colorado Midland Railroad at Colorado City, vice Dr. C. J. Turpin, resigned.

WASHINGTON.

DR. HAMILTON STILLSON, of Seattle, is spending the summer months in Zurich, Switzerland.

CANADA.

THE steamer *Chieftain* of the Calvin Company, Kingston, is under quarantine restrictions at Quebec, a member of the crew having smallpox.

DR. HUGH FLEMING, of the Ottawa Bearer Company, has been appointed A. D. C. to the new Commander of the Canadian Militia, Major-General O'Grady-Haly.

A TELEGRAM from Winnipeg states that smallpox has broken out at the half-breed reserve, south of Killarney, near the United States boundary. Drs. J. T. White and Riddell, of that city, have been appointed medical inspectors at Killarney and Cartwright, respectively.

MEDICAL MILITIA MATTERS IN THE MARITIME PROVINCES.

The undermentioned medical officers are authorized to join the course of instruction to commence at Halifax on August 30: Major J. W. Bridges, A. M. S.; Lieut. A. A. Schoffner, A. M. S.; Surgeon-Major D. A. Campbell, 63d Rifles; Lieut. J. Ross, A. M. S.; Surgeon-Major M. A. Curry, 66th P. L. F.; Surgeon-Major O'Neill, late 17th Field Battery; Surgeon-Major J. Hayes, 93rd Regt.; Capt. J. A. Spoungle, A. M. S.; Capt. H. G. Johnston, A. M. S.; Lieut. E. D. Farrell (supernumerary); Surgeon-Lieut. C. D. Murray, 1st Regt. C. A. (supernumerary); and Surgeon-Lieut. E. A. Kirkpatrick, 66th P. L. F.

THE RECENT HOT SPELL IN TORONTO.

Not for 61 years, with one single exception, has Toronto experienced such extreme high temperature as that which obtained during the past week. Its effects were especially seen in the mortality-rate among children and the aged. From August 4 up to August 9, 72 deaths were reported. In one day, August 9, 25 deaths were reported, of whom 9 were children and 4 over 80 years of age. The normal death-rate in Toronto is 9 per week.

ANNUAL REPORT OF TORONTO'S HEALTH OFFICER.

In the annual report of the Medical Health Officer, which has just been issued from the hands of the printers, much valuable information is given with regard to the health of the city. During the year 598 samples of milk were collected and analyzed. There were 225 cases of typhoid, 1913 of scarlet fever and 458 of diphtheria reported during the year, of which 34, 55, and 82 respectively resulted fatally. The total number of patients of all kinds admittted to the Civic Hospital numbered 804. This included 458 of scarlet fever, 334 of diphtheria, 8 of smallpox, 1 of chicken-pox and 3 of measles. The number of deaths during the year was 58, but 6 who died were moribund when brought to the hospital and expired immediately. The death-rate, including those moribund when admitted, was 6.16 per cent., and excluding them it was 5.48 per cent. The report on diphtheria prepared by Professor Shuttleworth, the city bacteriologist, goes very fully into the nature and duration of this disease; and as evidence that susceptibility is influenced by age, he points out that of the 238 cases of true diphtheria the ages were as follows: 5 years and under, 32.6 per cent.; 5 to 10 years, 29.6 per cent.; 10 to 15 years, 12.7 per cent.; over 15 years, 25 per cent. Thus the oft-repeated statement that children under five years of age are more susceptible here receives confirmation. The deaths were: Under 5 years, 24; 5 to 10 years, 5; 10 to 15 years, 3; and over 15 years, 4. Referring to the invasion of smallpox, the report states that the city has been invaded five times, but the health officer considers "that the two secrets of success in handling this disease in a densely populated community are, first, the capability of accurately diagnosing the disease, and second, the prompt, complete and absolute isolation of those infected and of those who have been exposed to infection."

THE NATIONAL SANITARIUM ASSOCIATION.

Mr. W. J. Gage, the treasurer of this association, has written the mayor of the city that he is authorized to submit to the Council of the City of Toronto, the following proposals: The association above mentioned will undertake to devote the sum of $20,000 toward the erection and equipment of a Toronto Free Sanitarium for the treatment of consumptives, provided the city will give an equal amount for the same purpose. If the city accepts this offer, work will be commenced at once, with a capital of $44,000, as by the legislation of the last session of the provincial parliament $4000 would be available from the exchequer of the Province of Ontario.

London Letter.

THE BRITISH MEDICAL ASSOCIATION.

The sixth-eighth annual meeting of the British Medical Association was opened at the historic old town of Ipswich—famous as the birthplace of Cardinal Wolsley—under the presidency of Dr. William Alfred Elliston. In his address the president alluded to the great progress made by the Association since it met twenty-six years ago in another East Anglian town, Norwich. Then it numbered only 6000 members, now it reaches over 18,000, of whom 4000 are colonial. [A full abstract of the address was published in THE JOURNAL, August 4, p. 290.]

The Address in Medicine was delivered by Dr. Pye-Smith, of Guy's Hospital, who took for his subject "Medicine As a Science and Medicine As an Art." He said: "It has been disputed whether medicine should be regarded as a science or an art; but there is no doubt that the original meaning of medicine, and of the corresponding terms in other languages, is the art of healing. It is the knowledge how to act, not how things happen. Nevertheless, as navigation is founded on astronomy, meteorology and physics; as agriculture rests on botany and geology, so medicine depends on pathology. While medical science without art is inefficient, medical art without science is not only unprogressive but ultimately becomes quackery. The profession has suffered from lack of the inquiring skeptical spirit, and has often been led too easily by authority. The reckless abuse of venesection has led to almost complete disuse of a valuable means of treatment, and the misuse of mercury in syphilis has led to the denial of its unquestionable efficiency. How closely natural science is related

to preventive medicine is shown by the history of Jenner, who was a naturalist, and of Pasteur, who was a chemist. The cretinoid condition in adults, discovered by the clinical acumen of Sir William Gull, unintentionally produced by the surgical skill of Kocher and reproduced in animals by Horsley, is now cured by the eminently scientific method of thyroid administration, due to Dr. G. Murray and Dr. Hector Mackenzie. A source of failure in therapeutics is the legion of new remedies of which the eulogiums fill waste-paper baskets. It takes a man long years to learn how to prescribe opium. Why throw away this priceless knowledge to dabble in quack remedies, the very praises of which inspire distrust?

The Address in Surgery, on "The Surgeon in the Nineteenth Century," was delivered by Mr. Frederick Treves. [A full abstract was printed in THE JOURNAL, August 4, p. 293.]

In the Section of Pathology, Prof. Klein delivered an address on "Bacteriology in Relation to Pathology." For more than a century inflammation has occupied a host of active minds and was being analyzed in all its elements. It as admitted that with the exception of traumatic agencies, the chief, if not the sole, cause of the changes are microbes, which lead to the abnormal interaction between the vessels and the tissues. Then toxins set up the inflammation. Koch's tuberculin, the diphtheria toxin, the toxins of many other microbes produced in the test-tube and then injected, produce typical inflammation. The same has been shown of the dead protoplasm of many microbes, tubercle, cholera vibrio, bacillus pestis, and others. The greater or lesser number of leucocytes in inflammatory foci is explained by bacteriology. Some inflammations are characterized by copious transudations with few leucocytes, others are associated with their copious accumulation as in suppuration. These facts are explained by chemotaxis. Some microbes or their toxins powerfully attract leucocytes from the blood, others have no such effect or even the reverse—negative chemotaxis. Singularly, necrosis is an effect of toxins. Roux and Yersin have shown that the diphtheria toxin has a powerful necrotic action. Progressive necrosis is due to the action of microbes. In non-microbic necrosis, the necrosis is local and circumscribed, being due to direct action of the noxious agent, thermic, chemical or traumatic, and its action is limited to the parts actually attacked. But in both forms the necrosis appears of the same essential character, namely, coagulation of the protoplasm of the cells, inclusive of the vessels. Until recently it was considered that specificity of cell secretion was one of the fundamental phenomena of normal tissues. Behring, Kitasato, Brieger, Roux, Ehrlich, and others, have shown that under the activity of many pathogenic microbes and their toxins a curious series of secretions takes place, which are as specific as normal ones—specific antitoxins and specific agglutinins. It was further shown that not only bacteria, but also organic substances, such as abrin, ricin, venin, are capable of stimulating the cells to a like production of specific antitoxin.

A discussion, "Influenza, As It Affects the Nervous System," took place in the Section of Medicine; Dr. J. S. Bury opened this discussion. Four types of influenza can be recognized, according to the organ chiefly affected, affecting: 1, mucous membranes; 2, the gastrointestinal tract; 3, the heart; 4, the nervous system exclusively. In all forms the nervous system is profoundly affected, as is evidenced by the pain in the head and back, hyperesthesia, delirium and depression—all symptoms of the effect of toxin on the nervous system. When ordinary nervous symptoms appear absent, careful observation will show others—undue dyspnea in pneumonic cases and tachycardia and bradycardia in heart cases. There are two chief groups of nervous affections—those developing during the febrile stage, such as meninigitis and encephalitis, and those arising later, in which as a rule no organic charges are found. In the first group he distinguishes a comatose and a delirious type. The former is very serious and often ends fatally. In one case hemorrhagic meningoencephalitis was found post-mortem. Cerebal embolism, thrombosis and abscess are also found. The delirious type is common in children. The cord may be attacked with the brain or independently. Every known form of nervous affection—of brain, cord, or nerves—has followed influenza. The peculiarity of the influenza toxin as distinguished from that of diphtheria, is that it affects nervous tissue haphazard and not so much in groups.

MR. R. J. GODLEE said that "Subdiaphragmatic Abscess" is not a disease, but merely a bye-product of some other disease. The extra- and the intra-peritoneal varieties present very different symptoms. None of the symptoms can be described as pathognomonic. In the early stages there may be hiccough, a stitch in the side and friction. The stethoscope is useful in diagnosis. The abscess may give rise to dulness in the lower chest and may be accompanied by cardiac displacement. It may be diagnosed from pleurisy from the fact that the movements of the chest are not impaired and that the upper limit of dulness is not so well defined, and that respiration may be heard below this. In emaciated persons the lower border of the right lung can frequently be seen ascending and descending, which would be quite against the presence of pleurisy. If gas is present—"subdiaphragmatic pneumothorax"—the bell sound may be readily elicited. The tympanitic note may reach upward even as far as the second rib, and yet the respiratory movements of the chest may not be interfered with. The causes of the abscess are: 1, gastric rupture of gastric ulcer with localization of the pus; 2, intestinal rupture of a duodenal ulcer; 3, cecal and appendicular disease; 4, suppuration of hydatid cyst of liver or spleen; 5, abscesses of liver; 6, perinephral abscess; 7, subcutaneous injuries; the abscesses sometimes follow a blow, which probably causes rupture of a pre-existing ulcer; 8, wounds; 9, metastases; 10, caries or necrosis of ribs; 11, thoracic suppuration spreading downward; 12, various causes—actinomycosis, tuberculosis; peritonitis and disease of the pancreas.

"Nasal Obstruction as a Factor in Catarrah of the Throat, Nose and Ear," was discussed by Dr. Scanes Spicer. It is not uncommon to have cases of nasal obstruction of the most trifling kind sent for the adenoid operation, in which the adenoid hyperplasia is absent or insignificant. In most cases of adenoids the postnasal hyperplasia is only a part and often a small part in the pathological condition of the so-called adenoid child. Fractured and deflected bones and cartilages, turbinal enlargements, hypertrophied tonsils pushing up and growing behind the soft palate, stunted nostrils and even vaulted palate, are often far more important features in the case. The failure to recognize this is the cause of the unsatisfactory results which sometimes ensue, if the practitioner has undertaken to bring about a cure by simply removing adenoids. In many children with nasal obstruction no formal adenoid operation need be done with an anesthetic—and its risks are not negligible unless under special circumstances. Many hundreds of adenoid operations are done unnecessarily every year in this country when adenoids are not present, or, if present, are only an insignificant element in the obstruction, which depends mainly upon other causes. The result is failure or only partial success in removing the symptoms of obstruction. An operation for adenoids is often regarded as the termination of the case. It is only the first step toward recovery. The respiratory tract being clear, it has to be used and developed. Respiratory exercises for the expansion of the chest, the removal of articulation and resonance defects, regulation of vaulted palate and crowded teeth, and other defects, may require careful attention.

FRACTURES.

MR. HOWARD MARSH, F.R.C.S., president of the Section of Surgery, in his opening address made the following remarks regarding fractures:

The subject of fractures, while so old and familiar that it may appear too hackneyed and barren to be worthy of notice, has, nevertheless, lately felt the influence of modern advance. The Roentgen process secures an accuracy of diagnosis which formerly was often impossible. The aseptic method makes operative interference safe so that when necessary it can be adopted without hesitation. To secure the best results, treatment must be applied not only to the fractured bone itself, but to the neighboring joint and the muscles and other structures of the limb.

TEACHING OF PHARMACOLOGY.

WALTER G. SMITH, M. D., president of the Section of Pharmacology and Therapeutics, took the above as his subject for the opening address of the section. Comparing the teaching of materia medica and therapeutics of thirty years ago with that of the present time, three features stand out prominently: 1, the retrogression of descriptive materia medica in its restricted meaning; 2, the establishment of special forces in practical pharmacy at the medical schools conducted in suitable laboratories; 3, the development of the scientific investigation of the modes of action of drugs.

A modern course of lectures on materia medica should most certainly be founded on physiology, but practical demonstration of the physico-chemic properties of drugs is still necessary. Simple experiments can be shown in illustration of the more important physiologic and therapeutic properties of drugs, general principles can be laid down, alliances pointed out and broad features sketched, which connect together large numbers of drugs.

The flood-tide of discovery of new synthetic chemic remedies has washed on shore a few treasures but much rubbish of a pseudo-scientific sort. The physician is daily worried with samples and advertisements from competing firms announcing new drugs or novel combinations, and he is tormented during his consulting hours by the visits of agents representing these articles. This most objectionable practice is on the increase and should be stamped out by the medical profession.

TROPICAL DISEASES.

COL. KENNETH MACLEOD, M.D., president of the Section of Tropical Diseases, in his opening address, discussed the scope and aim of the work of the section. The Secretary of State for the Colonies has realized more clearly than any of his predecessors the importance of acquiring an education as regards tropical pathology and hygiene. The government of India is also aroused and is taking action in the same direction by encouraging research, training men in bacteriologic method, establishing laboratories, appointing commissions and promoting special investigation.

A knowledge of the pathology and pathogenesis of disease obviously must precede and guide preventive and curative effort. The recent history of malariology is a signal illustration of the dependence of sanitary and therapeutic endeavor on pathologic discovery. Koch has been attacking the plasmodium in the human subject. Sambon and Low are endeavoring to cut the morbific circuit outside of the body. The results of the proceedings of these gentlemen should contribute an important aid to the solution of the question whether the Anopheles is the only medium of malarial infection, and if so, whether this occurs invariably by inoculation.

In the South African war, sun-stroke and sun-fever were very common, but it has been impossible to obtain information whether any considerable number of these cases presented the phenomena of epidemic or communicable "siriasis." Enteric fever is always in grim evidence during war. Perhaps the most urgent question of the hour is how to mitigate its prevalence in the British army, in which in time of peace it causes one-third of the total mortality. The fact of the immunity of the native population in India to typhoid fever is most remarkable. It has been attributed to habituation to minute doses of the contagion, to protection conferred by attacks during infancy and childhood, and to racial resistance acquired in the course of generation through both these influences. Whether a similar immunity can be engendered in European subjects, by a process of inoculation such as that devised by Professor Wright, is a question the reply to which is awaited with eager anxiety. Similar procedures for creating immunity against cholera and plague initiated by Professor Haffkine have been attended with satisfactory results in India.

Dysentery has been very rife in South Africa, but has been as a rule of a mild type and amenable to treatment. In some camps it has been apparently infectious, but we have much to learn concerning the pathology and causation of this disease. In addition to imperfect conservancy, foul water, bad food, alternations of temperature, exposure and fatigue, a muco-enteritis apparently caused by the swallowing of irritative particles of grit has been observed which has been termed "dust colic."

The persistence of plague in India and its appearance for the first time south of the equator are events which deserve special notice. It is curious to note that while in India natives appear to be readily susceptible to the infection of plague, Europeans exhibit a comparative immunity to this disease. The same immunity—a sanitary immunity—is also observable in some places as regards cholera.

The work of this section is not only with exclusively tropical diseases but includes diseases originally tropical which may prevail for a time in extratropical localities and diseases which are not especially tropical but which are liable to be aggravated in prevalence or severity by tropical conditions.

(To be continued.)

Deaths and Obituaries.

PHILIP SMITH POSTELL, M.D., died August 3, at Plaquemine, La., half an hour after an apopletic seizure. He was born in Charleston, S. C., in 1836; graduated from the Medical College of the State of South Carolina, at Charleston, in 1858, and served throughout the Civil War as surgeon of the Thirty-fourth Mississippi Infantry, C. V. S. At the close of the war he settled in New Orleans, but removed in 1868 to Plaquemine. He was prominent in medical and educational matters.

THEODORE KRAUSS, M.D., of Saginaw, Mich., died at his home on August 5, at the age of 75 years. He was born in Hesse-Darmstadt, Germany, in 1825, studied at and graduated from the University of Giessen in 1851. He afterward took a post-graduate course at Heidelberg University. He came to America in 1858 and settled in Saginaw in 1862. He was one of the oldest and best-known physicians in the Saginaw Valley.

GEORGE G. SHANNON, M.D., of Tulare, Cal., died at San Francisco, Cal., August 5, from hemorrhage of the lungs. He was a graduate of the medical department, University of Michigan, and settled in Illinois, but was forced to go to California on account of ill health, and located in Tulare in 1878. He was, at the time of his death, vice-president of the Medical Society of Tulare County.

CALVIN A. S. PROSER, M.D., of Boise, Idaho, died from ether pneumonia on August 3, aged 36 years. He was a native of Toronto, Ont., but received his medical education in New York, graduating from Bellevue Hospital Medical College in 1887. He practiced a short time in Chicago, but was forced on account of ill health to go to Marquis, Iowa, and thence for the same reason to Boise.

W. C. LEUCE, M.D., of Jonesboro, Ill., died August 1, from Bright's disease, aged 56 years. He was graduated from the medical department of the University of Louisville, in 1872. He was a recognized authority on the diseases of southern Illinois, and was superintendent of the Illinois Southern Hospital for the Insane at Anna, during Governor Altgeld's administration.

JOHN F. BURUS, M.D., died from meningitis at St. John's Hospital, Long Island City, N. Y., on August 9, aged 35 years. He was graduated from the New York University in 1890. He was visiting surgeon in St. John's Hospital, New York, and Maternity Hospital, and was one time associate superintendent of the Fort Hamilton Asylum.

ISAAC M. GETCHELL, M.D., city physician of Brewer, Me., died August 5, fifty-two hours after receiving an injury from a fall, by which his neck was broken. He was 53 years old, and was a member of the class of 1877, Medical School of Maine.

DAVID S. MILLS, M.D., of Pine Bluff, Ark., died August 3, from typhoid fever, at the age of 71 years. He was born in Tennessee, and was one of the earliest settlers in Pine Bluff. He was graduated from Memphis (Tenn.) Medical College in 1852.

G. L. ROBINSON, M.D., of Lebanon, Tenn., died August 4, at his home, at the age of 79. He was graduated from the med-

ical department of the University of Louisville in 1850, and then settled in Lebanon. He served during the Civil War as surgeon of the Seventh Tennessee Infantry.

CYRUS B. SCHREINER, M.D., of Mount Lebanon, Pa., committed suicide by cutting his throat while despondent, on July 28. He had been ill for several months, and had given up all hope of recovery. He was 47 years old and was graduated from Long Island Hospital Medical College in 1877.

N. M. CLUCK, M.D., an old and respected practitioner of Reagan, Tex., died from paralysis August 1. He was graduated from the medical department of the University of Nashville, Tenn., in 1876.

ELIAS B. HARRIS, M.D., a graduate of New York University, 1847, who was well known, particularly during the earlier gold discoveries in California, died in San Francisco, August 7, aged 75 years.

T. R. WILSON, M.D., of Pilot Point, Tex., died from tuberculosis, July 28. He was a graduate of the medical department of the University of Nashville, Tenn., in 1869, and settled in Pilot Point in 1895.

PRESTON B. YOUNG, M.D., of Farmington, N. H., was found dead in his office on July 31. He was of a famous family of physicians and well upheld its traditions. He was graduated in 1888 from the New York University.

HENRY L. DONNELLY, M.D., a prominent physician of Latrobe, Pa., died on August 3, from Bright's disease. He was a graduate of Jefferson Medical College in the class of 1853, and served through the Civil War, being mustered out as captain.

JOHN L. SPITZMESSER, M.D., of Franklin, Ind., a pioneer physician in that region, died August 8, at the age of 65 years.

CORTLAND VAN RENSSELAER CREED, M.D., a graduate of Yale medical school in 1857, died in New Haven, Conn., August 8, aged 63 years.

CHARLES H. KELLEY, M.D., one of the oldest residents of Newark, N. J., died at South Butler, N. Y., July 28, at the age of 75 years.

SANFORD G. RILEY, M.D., of Hamilton, Ga., died in Atlanta, August 1, at the age of 64. He was graduated from Atlanta Medical College in 1879.

Miscellany.

Intoxication by Alcohol and Ether.—A new beverage, composed of ether and slightly diluted alcohol, which is said to have originated in Galicia, is now being used with disastrous results in many countries of continental Europe.

Schools of Tropical Medicine.—The Liverpool School is coming into prominence by its dispatch of three different expeditions to the tropics for the scientific study of the etiology of malaria, dysentery and yellow fever. The *Lancet* informs us that the government will require a two-months' course at either the Liverpool or London school, for medical officers sent to the African protectorates.

Surgical Epilation Without Razor.—Queirel has found calcium sulphydrate extremely useful in removing hair from the field of surgical operations, according to the *Semaine Méd.* of July 4. It is applied in a thin layer like a paste and rinsed off with tepid water in five minutes, rubbing lightly with a cloth. The hairs wash off with it, leaving the surface smooth, without irritation or inconvenience of any kind, except the rather unpleasant odor of the hydrosulphate, which can be disguised if wished. The hair soon starts to grow again.

Index of Current Medical Literature.—Some time ago THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION adopted a new feature, which must undoubtedly have proved of value to its readers. The title-page, in addition to the usual announcement of original articles, contains a short abstract or analysis of each article. In its department of current medical literature THE JOURNAL gives us abstracts or notices of the original papers published in the chief medical periodicals of this and other countries. The index of Vol. xxxiv, recently completed, contains another important innovation. By cataloguing the articles which originally appeared in its own pages, together with those which it has selected or abstracted from its numerous exchanges, it furnishes us, in effect, with an index medicus of American medical literature. This is a laborious enterprise and should be highly appreciated by its readers. Those who, in the past, were accustomed to consult the "Index Medicus" in reviewing the literature of any subject are well aware how much that publication has been missed and will gladly welcome such an index as THE JOURNAL has prepared.—*Medical Bulletin* (August).

Societies.

Coming Meetings.

American Academy of Railway Surgeons, St. Paul, Minn., Sept. 5-6.

American Association of Obstetricians and Gynecologists, Louisville, Ky., Sept. 18-20.

American Electro-Therapeutic Association, New York, N. Y., Sept. 25-27.

Medical Society of the State of Pennsylvania, Wilkesbarre, Sept. 18.

THE ST. JOSEPH COUNTY (IND.) MEDICAL SOCIETY met at South Bend, August 3. Dr. F. J. Lent presented the paper of the evening, on "Adenoids."

THE BLAIR COUNTY (PA.) MEDICAL SOCIETY held its annual summer meeting at Wopsononock, at which a revised constitution and bylaws was adopted.

THE MEDICAL ASSOCIATION OF THE LAKE KEUKA REGION held its second annual meeting at Grove Springs Hotel, Lake Keuka, N. Y., August 14 and 15.

THE JACKSON COUNTY (MD.) MEDICAL SOCIETY met at Seymour, August 2. Dr. J. K. Ritter read a paper on the "Medical and Surgical Diseases of the Rectum."

THE PAN-HANDLE (TEXAS) MEDICAL ASSOCIATION will hold its next quarterly meeting at Quanah, September 4 and 5, under the presidency of Dr. David R. Fly, of Amorilla. Dr. Benjamin F. Hart is secretary.

THE SOUTH-EASTERN NEBRASKA MEDICAL ASSOCIATION met at Wymore, July 26, for its quarterly session. The physicians of Wymore entertained their visitors, but did not join the society as it was expected they would.

THE JAY COUNTY (IND.) MEDICAL SOCIETY held a meeting at Portland on August 10, at which Drs. Richardson and Taylor, Fort Recovery, O., reported some cases of appendicitis and Dr. R. P. Murray, Dunkirk, read a paper on "Obstruction of the Bowels."

THE CECIL COUNTY (MD.) MEDICAL SOCIETY met August 2, at Perryville. Dr. W. T. Skinner, Glasgow, Del., discussed typhoid fever with especial reference to the temperature range, and Dr. A. Robbins, of Newark, state bacteriologist of Delaware, demonstrated the Widal test.

THE DECATUR (ILL.) MEDICAL SOCIETY met on July 26. The papers of the evening were "The Practice of Medicine Fifty Years Ago and Now," by Dr. W. J. Chenoweth, of Decatur; "The Bubonic Plague," by Dr. S. R. May, of Mt. Zion, and "Infantile Diarrhea" by Dr. E. A. Morgan.

THE YORK COUNTY (PA.) MEDICAL SOCIETY held its monthly meeting at York City. Dr. Wesley C. Stick, of Glenville occupied the chair. Delegates to the state medical society were elected, after which Dr. J. Clarkson Smith read a paper on "Uric-Acid Diathesis," and Dr. J. C. May, a paper on "Sciatica."

THE BERKSHIRE (MASS.) DISTRICT MEDICAL SOCIETY will hold its annual summer meeting at Dr. Paddock's cottage, Pontoosuc Lake, August 30. The topic of the meeting is "Quarantine, Disinfection and Care on the Part of Officials who Have Charge of Infectious and Contagious Diseases." It is hoped to secure uniform rules for quarantine, etc., of these diseases.

THE LEHIGH VALLEY MEDICAL ASSOCIATION held its twentieth annual meeting at Reading, Pa., August 16, in conjunc-

tion with the meeting of the Berks County Medical Society. Dr. J. Milton Duff, Pittsburg, delivered an address on "Modern Obstetrics;" Dr. I. Cleaver, Reading, the retiring president, considered the "Relation of the Medical Profession and the Physical Culture of Children," and Dr. P. A. Harris, of Patterson, N. J, described "Certain Pathologic Conditions of the Fallopian Tubes of Interest to the General Practitioner."

BRAZILIAN CONGRESS OF MEDICINE AND SURGERY.—The fourth annual congress of the physicians and surgeons of Brazil convened at Rio Janeiro, June 17, with a large attendance, including many non-professional senators and other prominent government officials and scientists. The date coincided with the four hundredth anniversary of the discovery of Brazil. Dr. Guedes de Mello presided. Chapot-Prevost described his operation on the united twins, mentioned in THE JOURNAL, Sept. 16, 1899. Many valuable communications on tropical diseases were presented. Committees were appointed to report at the next congress on the establishment of a sanatorium; on the organization of a congress to arrest the spread of syphilis; on the foundation of a maternity. Another committee was appointed to confer with the public authorities on means to prevent purulent ophthalmia and consequent blindness, and a fifth to solicit from the Legislature measures to complete the constitutional principles of professional liberty.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.—The next meeting of this Association will be held at Asheville, N. C., October 9-11, under the presidency of Dr. Harold N. Moyer, of Chicago. The following addresses have been announced: I. N. Love, St. Louis, will deliver the "Address in Medicine," and C. A. Wheaton, St. Paul, the "Address in Surgery."

Papers will be read as follows: L. W. Beardsley, St. Louis, "Canthoplasty in Ophthalmic Practice;" Andrew Timberman, Columbus, O., "The Etiologic Relation of Eye-Strain to Epilepsy;" Otto J. Stein, Chicago, "Middle-Ear Disease in its Relationship to the Cranial Cavity;" George F. Keiper, LaFayette, Ind., "Some Observations Gleaned from Some Recent Cases of Mastoiditis;" Alex. C. Weiner, Chicago, "Treatment of Tuberculosis of the Spine;" A. J. Ochsner, Chicago, "Relation of Appendicitis to Gall-Stones;" B. Brindley Eads, Chicago, "Ventral Hernia Following Laparotomy;" George W. Crile, Cleveland, "Technique for Removal of Tumors of the Neck; George W. Cale, Jr., Springfield, Mo., "A Case of Intermittent Hydrops of the Knee;" James B. Bullitt, Louisville, "Hernia in Man and Animals;" Thomas H. Manley, New York, "Notes on Fractures Contiguous with or Involving the Articulations of the Larger Bone Shafts;" John L. Jelks, Memphis, "The Treatment of Peri-Rectal Abscesses;" Sterling B. Taylor, Columbus, "Obstipation;" J. Rawson Pennington, Chicago, "Simple Operation for Hemorrhoids; Enucleation;" A. B. Cooke, Nashville, "Revelations of the Proctoscope in Health and Disease;" H. O. Walker, Detroit, "Vaginal versus Abdominal Hysterectomy;" R. S. Sutton, Pittsburgh, "Cancer of the Uterus and its Treatment;" C. S. Bacon, Chicago, "The Prevention and Management of Infection of the Breast During Lactation;" J. H. Taylor, Indianapolis, "The Girl at Twelve;" Yeatman Wardlow, Columbus, "Ectopic Gestation;" Emil Ries, Chicago, "Pathology of Chronic Gonorrhea of the Male Sexual Organs; A. Ravogli, Cincinnati, "The Gonococci in the Gonorrheal Secretions;" R. A. Bate, Louisville, "Asthma;" T. D. Crothers, Hartford, "The Curability of Inebriety by Medical Treatment; William O'Neal Mendenhall, Richmond, Ind., "The Determination of Sex;" Frank P. Norbury Jacksonville, Ill., "Pulmbonary Tuberculosis in Infancy and Childhood;" W. H. Bates, New York, "Further Observations on the Clinical Application of the Suprarenal Capsule;" Albert E. Sterne, Indianapolis, "The Association of Diseases;" William Porter, St. Louis, "The Growing Necessity for Sanatoria for the Tubercular;" I. H. Goss, Athens, Ga. "Erichsen's Disease: Does it Exist? Various Injuries Due to Accident;" William F. Barclay, Pittsburgh, "The Philosophy of the Science and Art of Medicine;" J. E. Allaben, Rockford, Ill., "Treatment of Adherent Cysts of the Ovary and Broad Ligament by Incision and Drainage;" L. H. Warner, Brooklyn, "Differential Leucocytosis;" J. G. Carpenter, Stamford, Ky., "Suprapubic Cystotomy for Traumatism, with Median Perineal Drainage."

The First International Congress of the Medical Press.

Paris, July 26-28, 1900.

The leading address delivered at this Congress was by Landouzy, who extolled the medical press. By the federation of its multiple organs it is the universal university, the most powerful and effective of all postgraduate means of instruction. It gives wings to the words of the masters and spreads abroad to the four corners of the globe the Pasteur doctrines, Lister's dressings, new remedies, etc., in less hours than it took months in the days of our fathers. It is to the honor of the medical press that the study of the material interests of the profession, although so legitimate and so urgent, yet did not come in the order of its preoccupations until after the study of its intellectual interests. It is to the honor of the medical press that it sought first to impress a professional ideal, a combination of scientific loyalty, love of truth, independence of character, a broad and tolerant spirit of solidarity and disinterestedness. Nevertheless it is now time that the respectable material interests of physicians should no longer be misunderstood. It is only justice for the medical press to take in hand the interests of a profession which, without attracting attention or being thanked for it, has always shown itself more solicitous of its duties than of its rights. Proclaiming that medicine is the most social of professions—its aim being essentially humanitarian—let us no longer hesitate to claim for it the cessation of the abuses which in every land demand of physicians the very best of themselves for the relief of suffering humanity, while the physician by the nature of his calling is charitable and most easily imposed upon. It is scarcely an exaggeration to call the present methods the systematic exploitation of the medical profession by the state, the commmunity, the lodges and sickness-insurance societies. The vast question of public medical charities is one of the subjects now most engrossing the studies and critiques of the medical press in all countries. This gathering can not fail to cast light on several of the problems whose solution is of far greater importance after all to the public than to the medical press. Our journals should place themselves at the service of the righteous claims our confrères are even now discussing over the way in the First International Congress of Professional Medicine. The medical press owes it to itself to discuss all these professional questions with the same interest as strictly scientific questions. It should step into the arena as the advocate of every professional claim it considers just, whether the claims refer to intellectual or to moral or material interests. They may all be summarized in the motto: truth in science; honesty in art, and security in the profession. Most of the claims of the medical corps seem the more legitimate, as in a well-organized society—a society which glories, and justly, in its benevolent and charitable, its mutual benefit institutions—simple justice requires that the physician should have a professional standing in conformity with the humanitarian duties he imposes upon himself. Duties accomplished and services rendered should place society under obligations to the physician. It is for the medical press to persuade the powers that be and the public at large that in medicine is to be found the means to make men better. It is for the medical press to convince one and all that if the physician is in truth the arbiter and engineer of health a more equitable position should be accorded to him in our justice-demanding society. It is for the medical press to never weary of the task of persuading the authorities and the public that there can never be too large appropriations for charitable assistance and the preservation of the health of the people. Entirely aside from reasons dictated by humanity, society—in each of its members—has motives of personal interest in improving the health of our neighbor, in rendering his diseases less frequent and hastening to cure them. It is for the medical press to consider how best to reconcile the charges incumbent on the state, on the community and on individuals, so that the burden would rest lightly on all and not too heavily on any one. To solve these infinitely great and infinitely difficult problems the medical press of the world must work with untiring zeal, remembering the words of Renaudot, the first medical jour-

nalist in France: "The rich must aid the poor, for the harmony of a state ceases when one part grows out of proportion to the rest while another atrophies."

International Congress of Professional Medicine.

Paris, July 23, 1900.

About four hundred physicians and fifty ladies were present at the opening session of the first International Congress of Professional Medicine and Medical Deontology, Paris, July 23. The secretary, J. Glover, observed in his address that for the first time a liberal corporation which makes less noise in the world than the rest, perhaps, but which yet plays one of the most beautiful parts, and whose independent character gives it an absolutely exceptional place in respect to society, has assembled to discuss its duties, chiefly, but also, a little, its rights. It is an ungrateful, arduous task, so delicate is the epidermis of the medical corps and so exquisitely sensitive its nerves, and also so complex is the economic position of the physician in the organization of modern society.

DR. LANDES, president of the Union des Syndicats Medicaux de France, emphasized the value of the capital represented by the physician as he enters on his medical career. This includes not only the special pecuniary expenses of his long and onerous studies but the sum of the disbursements required for the material life of a man already past the middle of average life, and besides—most important of all—the intrinsic value of the man himself, resulting from his moral and scientific capacity, the capital of his accumulated labor. The young physician, therefore, represents a dual capital, a financial and an intellectual value, the total corresponding to a higher figure than that possessed by a man entering upon any other career. And yet the latter protects his capital to the fullest extent, which the former seldom or never does. The manufacturer insures his plant, the merchant his goods, the farmer his buildings, etc., but the physician seldom realizes that all his capital is vested in his own person and that the welfare of his family depends solely upon his health and life.

JENDRASSIK described the benefits of an organization such as the Hungarian Medical Association, which was founded in Hungary three years ago, and now comprises five-sixths of all the members of the profession in the country. This organization pays a certain sum to the family of a deceased member; has made a special study of legislation affecting physicians in any way; has established a minimum rate for fees and has founded a special journal to keep its members in touch with its work. The resolutions proposed by Cuylits in his address on "Lodge Practice," mentioned on page 460 of this issue, were adopted by the Congress in full, with the exception of the last, which was modified to the effect that the "superintending physician on the board of mutuality" should be a representative of the local medical association.

In discussing the question of hospital abuse, the Congress adopted a resolution that notices should be placarded in the hospitals and dispensaries and outside that they are for the exclusive benefit of the poor, with mention of the necessary formalities. Thiery further advocated that tickets good for one year should be given to needy patients whose circumstances have been investigated by a special committee appointed in each precinct, and that these tickets or information in regard to pecuniary resources of each applicant should be exacted. The latter resolutions were not voted on, as conditions vary so widely in different localities that no general rule will apply to all.

DESCOUTS presented resolutions which were also adopted, affirming that it is the task of medical societies—not individuals—to prosecute persons illegally practicing medicine, and that a special fund must be created for this end, supported by subscriptions proportionate to the needs and consecrated exclusively to this purpose.

The "Abuse of Medico-Pharmaceutic Advertising" was discussed and the resolutions proposed by Richard-Lesay, of Lille, were adopted, as follows: 1. The Congress declares its disapproval of advertising in any way, shape or manner on the part of the medical profession. 2. No pharmaceutic specialty should be allowed to be sold without the formula appended. 3. The rights of medico-pharmaceutic advertising should be much curtailed, allowing them to announce and advertise in medical publications of all kinds, books, reviews, journals, etc., but in medical publications only. 4. Consultations, remedies and treatment are not matters for advertising and are prohibited to any person engaged in the practice of medicine, pharmacy or any branch of the healing art. Lesay's fifth resolution urged the application of legislation to the illegal practice of medicine, imposing a penalty on every unqualified person who by notices, circulars, proclamations or advertising, informs the public that he treats diseases.

GRASSET delivered the leading address on "Deontology." He affirmed that ignorance of the principles of deontology is one of the chief factors in the present medical crisis, inasmuch as it discredits physicians and depreciates the profession. He urged the necessity of a general code of deontology and the advisability of a supreme council of professional medicine with moral penalties. Among the acts he condemned are accepting cheques from drug firms for lending one's name to launch a new preparation, or from manufacturers of orthopedic appliances or proprietors of water cures. No physician should be a shareholder in a tuberculosis sanatorium. Sanatoria should be multiplied, but the executive board should be shareholders outside the ranks of practitioners, medical journalists or professors. Some authors have maintained that it is wrong for a physician to speak of his patients as if they were his private property. This view is, however, not generally held. Before accepting a patient as a successor to a confrère, the first physician must be notified of his deposition by the family. As a general principle No. 2 should insist that the family ask for the bill of No. 1 and express intention to pay it. But it is not necessary to wait until payment has been made before commencing to treat the patient. The physician should always accept a consultation, and with the preferred consultant. In respect to homeopaths the question is a difficult one to decide, for if certain ones are frauds others are honest. Dichotomy is to be absolutely condemned.

The Congress voted the resolution to have a Code of Deontology prepared and a supreme council organized with the right to inflict penalties of a professional order. It thus accepted Grasset's views, but extended them to include professional penalties. The latter measure was especially advocated by the Germans. The Congress has thus gone on record as favoring a disciplinary supreme authority, although each country is left free to organize the supreme council and frame its constitution as it thinks best. The *Semaine Méd.* comments that this resolution will probably long remain a dead letter. In order to hasten its consummation the Congress decided—for France alone, of course—that a permanent committee be organized to consist of the board of the present congress and the boards of the Union des Syndicats Médicaux, the Ass. Gén. des Méd. de France, the Syndicat de la Seine and the General Council of the Medical Societies of Paris. This permanent committee is to draw up a Code of Deontology on the bases set forth in Grasset's address, to determine its application in debatable cases submitted by local associations, and to organize another congress of professional medicine. The *Semaine Med.* observes that the morality of the medical corps depends far more on the example afforded by the leaders in the profession than on the vagaries in the ranks. It views with considerable distrust the creation of a disciplinary order as "big with menaces to the individual liberty of the man of art. And if—as is scarcely probable—such a measure should ever be realized, the medical corps may some day begin to lament—like the frogs in the fable—that they had ever asked for a king."

The receptions and other festivities of the Congress were everywhere decorated with the motto adopted: "Optima Medicorum Concordis." The United States was represented among the honorary presidents by Richardson; Great Britain by Wakely and Bruce; Germany by Schwalbe; Austria by Benedikt; Denmark by Bosch; Belgium by Van Dam; Brazil by Moncorvo; Spain by Pascual; Russia by Chapiroff, and France by Brouardel, Cézilly, Lande and Lannelongue. It is proposed to hold another congress in three years, probably in Belgium.

Colorado State Medical Society.

Thirtieth Annual Convention, Denver, June 19-21, 1900.

INFLUENCE OF MYTH AND SUPERSTITION ON MEDICINE.

DR. W. W. REED said that there are now few country neighborhoods that do not have some who are believers in the healing powers of the seventh son of the seventh son. There are in his neighborhood two persons who claim to be able to check a hemorrhage of either man or beast by repeating a certain verse. Why this state of affairs continues is strange; why should a man, who in the conduct of his social, financial, political and religious affairs uses the utmost sagacity and intelligence, when it comes to matters of disease, look for the absurd and the supernatural? He thinks that this is largely due to the fact that medicine in its very incipiency had the misfortune to fall into the hands of the priesthood, who used it largely as a means to work upon the credulity of the people. Charms, mysterious rites and superstitious ceremonies were used in order to impress the human mind, and these have left an influence so strong that it will be many centuries before the effect is eradicated. He advocates the education of the public with regard to the science of medicine and the principles upon which it rests.

RATIONAL TREATMENT OF ABORTION IN COUNTRY PRACTICE.

DR. J. W. CLINE said that in the country, the physician has to assume the responsibility of being anesthetizer, nurse and porter in the midst of uncleanly surroundings, and that "if it is impossible to realize the ideal, we must idealize the real." In inevitable abortion, he gives the patient a dram of ergot and a hypodermic injection of 1/20 gr. of strychnin; cleanses the vagina with bichlorid solution and packs it with iodoform gauze. He orders occasional doses of ergot thereafter. At the second visit, he prepares hot solutions of bichlorid and normal salt, and after removing with placental forceps all that can be removed, he uses a moderately sharp curette. The uterus is douched with bichlorid and then swabbed with Churchill's tincture of iodin, followed by a douche of normal salt solution. He emphasized the advantages of using placental forceps instead of the fingers.

HEADACHE DUE TO EYE-STRAIN.

DR. E. W. STEVENS said that the area affected by disorders of the eye may be defined by a line starting in the region of the nose and following the lower margin of the bony orbit; thence running back from the orbital process of the frontal bone to the upper part of the insertion of the ear, and then dipping to form a curved line ending below the occipital protuberance. The area thus bounded may be further subdivided as follows: The fronto-nasal area, where the pain is said to be an aching over the middle of the forehead to the left or right of the middle line over the supraorbital notch. This area becomes tender in affections of the substance of the cornea, the anterior chamber of the eye, the upper part of the nose and the upper incisor teeth. The midorbital area, where the pain is at the back of the eye "over the front of the hair." This is usually due to refractive error. Contrary to most statements on the headaches of hyperopia and hyperopic astigmatism, he finds that they belong to the morning headaches. Headaches made worse by new work, or those that disappear under the use of atropin are almost always due to eye-strain.

DYSMENORRHEA.

DR. MINNIE C. T. LOVE considers electricity the best treatment for dysmenorrhea. The action of galvanism is almost entirely nutritional, stimulating the lymphatics, increasing the circulation, and acting as a nerve sedative. She recited the histories of fourteen cases, in all of which electricity had proved a remedial measure of great efficacy in various forms of the disease.

MEDICAL AND SURGICAL EXPERIENCES IN EQUATORIAL AFRICA.

DR. ALBERT L. BENNETT said that he opened his medical work in Congo Français in 1898, among the great and powerful tribe of anthropophagi, known as Fang. His residence and hospital was about fifteen miles north of the equator. The first man of these people who took an anesthetic was the village witch-doctor. The operation was a slight one for removal of tubercular glands, but the natives present escaped to town and started the rumor that he killed the medicine man, and was then "cutting him up." Fortunately by the time a large hostile crowd had reached the hospital the patient was out of the anesthetic, and was then able to tell the crowd what a brave man he was. After that everybody wanted "sleep medicine" for the slightest pain, or for domestic trouble. An African chief owning from ten to a hundred wives is not infrequently a much-worried man and eminently deserving of pity. Nervous diseases are extremely rare, doubtless due to their having no care for the morrow. One case, however, deserves attention: Male, 55 years old, having considerable fame as a witch-doctor, owing to the fact that he "picks up fire" without feeling pain. He was greatly emaciated, heart action rapid. The left shoulder presented a large mass of the muscle having sloughed away, leaving a large running sore, which gave forth a most offensive odor. Only the little finger of the right hand remained, the others having been burnt off, the stumps being fairly healed. The history of the case was peculiar. He was found sleeping in the fire into which he had rolled while asleep. Since that time he was looked upon as a great "ngang an" (witch-doctor), whom fire did not hurt. When making medicine, "biang," he would pick up burning wood and hot ashes. The muscles of the legs and arms were in a state of atrophy; reflexes exaggerated; sense of touch and smell normal, but the thermic sensation was absolutely lost. He died six months after of myelitis and secondary hemorrhage.

The leading symptoms of malarial infection near the equator are headache, nervousness, aching pain in all joints, ophthalmia, and sometimes a most exasperating coryza. He is of the opinion that arsenic is of more value than quinin in the treatment of malarial infection near the equator. Methylene blue is useful in chronic cases only.

Surgical cases are scarce, except senile cataract. During the two years of his sojourn, he had not seen a single case of trachoma. In closing his paper, he reported a case of ligature of the innominate for aneurysm of the right common carotid involving the subclavian. The specimen was exhibited.

DEGENERATIVE RESULTS OF DEFECTIVE HEREDITY.

DR. CHARLES DENISON said that autoinfection from rebreathing respired air causes a lethargy and enfeeblement of the nervous system, which in turn has a deleterious influence, especially on the respiratory system. The will power is also dwarfed by the depressing influences of deficient ventilation and the mind rendered unable to properly appreciate the force of either argument, precept or teaching. The only way to compass the great difficulty is through the systematic incorporation of good ventilation and physical training. He prefers the term "consumption" to "tuberculosis," and defines consumption as a degenerative or slow death, due to the vitiation of the blood, generally produced by deficient ventilation of the lungs, a prominent and advanced sign of which is the bacillus of tuberculosis. The phases of our civilization which aid degeneration and also tuberculosis are: 1. The advance in the healing art, which suspends the law of natural selection and permits the weak to propagate their kind. 2. The stimulation of the intellect and the nervous system to such an extreme as to injure the physical—reproductive—powers and favor sterility. 3. Indoor and inactive life, which is the accompaniment of the present social condition. 4. The self-supporting women, who decrease matrimony and exhaust vital power. 5. The present unaided effort of natural selection.

He formulated the following rule of marriage selection to avoid consumptive offspring: Find the proportion of all the mother's, father's and their married brothers' and sisters' children who were living at 5 years of age; if less than 80 per cent. are alive, there is reason to suspect a weak strain in the lineage; if less than 60 per cent., there is strong proof of degeneracy, etc. If the father or mother or any two of his or her grandparents, uncles, etc., died of consumption, cancer or scrofula, the proof of some defective biology is still more evident. Double this tendency to degeneration by uniting two family lineages equivalent to the above, even if one of the parties is ever so little defective, and a sin will be committed by such marriage. The only concession possible which would permit of such marriages is the non-bearing of children, that this line may end with the lives of the contracting par-

ties. It is asserted that "love is blind," and that, no matter what is said young men will make fools of themselves in choosing a wife, and girls will repeatedly "decline" proper offers of marriage only to pick up a "stick of a man" in the end. Under a proper system of education, and with a discreet enlightenment of the young as to their responsibilities, "love will go where it is sent" and it will be sent to the right place.

DIGESTIVE DISTURBANCES IN PULMONARY TUBERCULOSIS.

DR. C. B. VANZANT read a paper on "The Causes of and Importance of Digestive Disturbances in Pulmonary Tuberculosis." He considered the subject from the following standpoints. 1. Are dyspeptics more prone to develop tuberculosis than others? 2. Are tuberculous subjects more prone to develop digestive disorders than others? He arrives at an affirmative conclusion regarding the predisposition to one disease when the other is in existence. He laid great stress on the rôle which the diminished HCl of the gastric juice plays in the production of all kinds of fermentative changes, giving rise to toxins, ptomains and toxalbumin, which ultimately reach the lungs and there embarrass respiration. And, conversely, pulmonary tuberculosis predisposes to secondary indigestion by the disturbance of the gastric glands, due to profound anemia, hectic fever and neurasthenia. Dilatation of the stomach is an occasional condition of phthisis. From his observation he believes that a bad digestion is the heaviest burden a pulmonary patient can carry, and that if unrelieved, it will undo climatic, hygienic, medicinal and every other influence that can be brought to bear.

SCARLET FEVER AND QUARANTINE.

DR. W. A. KICKLAND formulated his views on the above subject as follows: 1. Cases of scarlet fever should be released from quarantine whenever desquamation is complete. 2. All children, before release from quarantine, should be anointed in the evening with a salve composed of carbolic acid, 2 c.c.; ol. eucalypt., 5 c.c.; and olive-oil, 100; followed in the morning by a thorough soap and water bath. This should be repeated for four successive days. 3. No domestic animals should be allowed in the house during the infective period. 4. There should be some means of compensating the quarantined family for time lost, as the public shuts them up for its own protection. 5. Health officers should be appointed whose compensation should be sufficient to justify them in giving their entire time to the work. They should visit every case of scarlet fever and raise the quarantine whenever they consider it safe.

INFECTION BY THE YEAST FUNGUS.

DR. C. G. HICKEY read a paper entitled "Some Pathological Conditions Characterized by the Presence of the Yeast Fungus," in which he gave an account of three cases of throat infection, in at least one, and probably in all three of which, none of the ordinary pathogenic bacteria, but numerous yeast-cells were in nearly pure culture. In a family of four, the wife had sore throat, from which she recovered, the husband had a fever attack, with intense aching across the back, chill and fever, temperature 101 F., dense exudate, deposit grayish in color, firm and not easily removed, leaving an irritable bleeding surface. The culture report was negative and recovery slow. One of the children then had a high fever, accompanied with vomiting and exudate in the throat; on the same day an eruption appeared, beginning on the chest and spreading over the body. The rash was small, papular, mostly discrete, and could be felt under the skin before it showed on the surface. There was a mild, convulsive seizure on the second day; the throat was not painful, and there was no glandular enlargement. Two cultures which were made proved negative as to diphtheria, but showed the presence of numerous yeast-cells, and the exudate showed a tendency to return. The second child had similar symptoms, but less severe in type. No culture was taken.

GUAIACOL IN DYSURIA.

DR. JESSE HAWES discussed "The Local Use of Guaiacol in the Treatment of Frequent and Painful Urination." He said that this agent is applicable only in those cases in which the cause of the symptom is located in the extreme inner portion of the urethra. The diagnosis of deep urethritis having been made, guaiacol is applied through a speculum to the affected mucous membrane. It acts as an anesthetic and stimulant, and does not give rise to strangury as does silver nitrate. The patient retains the urine for hours after the application.

SIGNIFICANCE OF THE FORM OF TUBERCLE BACILLUS.

DR. HENRY SEWALL read a paper, entitled "A Preliminary Note on the Relation of the Form of the Tubercle Bacillus to the Clinical Aspect of Pulmonary Tuberculosis," in which he stated that he undertook the solution of this problem at the suggestion of Dr. Wm. Welch, of the Johns Hopkins Hospital, and that the work was done under exceptional advantages at the Adirondack Cottage Sanitarium, where more than seventy patients were subjects of the inquiry. He had found that the form of the bacilli has great significance in the discrimination of these classes. The short, deeply-staining rod or chain of rods has fearful import. A rather thick, well-staining, homogeneous rod of moderate length is the usual form in many active cases. The long rods, particularly if irregularly broken, betoken a milder process. The chain of sporeless heads characterizes the very chronic cases, which make us wonder at their tenacious hold of life. If there is a benignant form of bacillus it is a rather long, slender rod, ill-staining, or staining irregularly, as if the body of the microbe were irregularly corroded on the sides. It is found in cases while apparently passing on to cure. Sputa of the same individuals, examined month after month, apparently vary in the bacillary character with the state of the patient as regards the disease.

DIABETES MELLITUS.

DR. R. F. GRAHAM reported the following cases: A woman, weighing 165 pounds, had diabetes for twenty years. She drank from ten to twenty quarts of water daily. Her brother had died at the age of 25, from diabetes mellitus. She passed ten pints of urine, with a specific gravity of 1006; acid; with no albumin, and no sugar. She had borne three children, in the urine of one of whom, a daughter, aged 20 years, sugar was discovered; the specific gravity was always normal, and the amount of sugar 1 per cent.

The second of the three children suffered from eczema and was circumcised on account of a tight prepuce. His urine irritated the wound and excoriation traveled over pubes, scrotum, buttocks and thighs. The urine was acid, contained no albumin, and .25 per cent. sugar. Two years afterward the urine did not contain any sugar, the specific gravity was 1007, was feebly acid, and contained no albumin. It is evident that heredity is well marked.

PULMONARY EMBOLISM WITH REPORT OF CASES.

DR. F. E. WAXHAM said that pulmonary embolism or infarction is due to the plugging of a pulmonary artery by a thrombus and the consequent extravasation of blood into the pulmonary tissue. The author believed the condition much more common than generally supposed, and cited a fatal case, occurring suddenly during the puerperal state, also one during an attack of phlebitis and reported in full, a case terminating favorably after sudden and desperate symptoms occurring a few days after an operation for varicose veins. The reported cases show by far the most common cause to be the dislodgment of a thrombus from the uterine sinuses during the puerperal state. The prognosis is generally unfavorable. Of thirty-five cases collected by Sperling twenty-seven were fatal, and of eighteen collected by the author, nine ended fatally. The symptoms vary according to the size and situation of the infarction. Small infarctions give rise to few or no symptoms, and the diagnosis is extremely doubtful. Well-marked cases are attended by sudden and intense dyspnea, rapid and shallow respiration; weak, rapid and thready pulse; pallor, anxiety, cool, moist skin, restlessness, short, painful cough and the expectoration of pure blood in small masses, followed by mucoid expectoration streaked with blood. When situated near the pleural surface and of considerable size, dulness, bronchial respiration, and increased fremitus can be detected. Suddenly fatal cases are often attended by frantic efforts at respiration, intense dyspnea and collapse, sometimes convulsions. When the symptoms enumerated occur suddenly during the puerperal state, during an attack of acute or chronic endocarditis or after operations upon veins, or during an attack of phlebitis we can be well assured of the diagnosis. The author submitted a tabulated record of reported cases.

DISLOCATION AND FRACTURE OF HUMERUS.

DR. C. B. LYMAN presented a paper entitled "Dislocation of the Humerus Complicated by Fracture at or Near the Surgical Neck," of which he said that he had found only 119 cases reported. The injury is an important one on account of the difficulties encountered in treatment and the very serious impairment of function resulting in a majority of cases. The subcoracoid variety makes up 75 per cent. of all cases. The seat of fracture was in the surgical neck in 73 per cent. of these, and the anatomical neck in 22 per cent. He reported the following cases: 1. A tree fell on a man, striking the right shoulder, and producing dislocation of the shoulder and fracture of surgical neck of the humerus. Attempt at reduction by the attending physician was unsuccessful. Splints were applied for ten weeks, but only partial union was secured. One year afterward, he cut down upon the fragments, resected the ends, and secured them by means of silver wiring and plaster-of-paris dressing from neck to hand. Perfect union was secured and also free motion of the bone in its new position underneath the coracoid process. The man works now as line repairer in a telephone company.

2. A miner fell down a shaft in a mine, fifty feet, striking timbers on the way, and causing numerous contusions over the body and dislocation of the right shoulder-joint. Attempts at reduction failed. Seven days after the accident the man came under his observation, and subcoracoid dislocation of humerus was found. He cut down upon the fracture and grasped the lower end of the upper fragment with forceps, and by exerting traction in a line at right angles to the body, succeeded with a slight pull in reducing the dislocation. The fracture was adjusted and held in position with silver wire.

3. A man thrown from a wagon, on examination showed the head of the left humerus lying underneath the coracoid process, and from mobility of his arm there was apparently a false joint below the glenoid cavity. Attempts were made to reduce the dislocation under ether by pressure and traction, without success. The procedure as previously described was used and recovery followed.

(To be continued.)

Therapeutics.

Tinea Sycosis—Barber's Itch.

R.	Acidi tannici		
	Sulphuris precipitati āā	gr. xlv	3
	Zinci oxidi	ʒiss	6
	Amyli, āā	ʒiv	16
	Vaselini	ʒi	32

M. Sig. To be used twice daily.

R.	Acidi carbolici	gr. v-x		3-6
	Acidi tannici pulv.	ʒss	2	
	Glyceriti tannini	ʒss	2	
	Sulphuris precipitati	ʒss-ii	2-8	
	Unguenti aquæ rosæ	ʒi	32	

M. Sig. To be thoroughly applied as early in the evening as possible and left on as much of the time as possible.

This ointment is very highly recommended by L. D. Bulkley, of New York City. It may be strengthened in chronic cases by the addition of unguentum hydrargyri oxidi rubri, ʒi to ʒii.

Soft Chancre.

R.	Acidi borici	gr. xv	1
	Aquæ	ʒi	32
	Alcoholis	ʒii	64

M. Sig. To be used for cleansing purposes when a balanitis is present; then apply the following paste for the destruction of the chancre:

R.	Zinci chloridi	gr. xv	1
	Zinci oxidi	ʒiiss	10
	Aquæ destil., q. s. to make a paste.		

M. Ft. unguentum. Sig. Apply to the chancre and leave in place for twenty-four hours.

The above treatment is recommended by MM. Hallopeau and Lerride in their book on dermatology.

—*Journal des Practiciens.*

Melazyo, in the *Bulletin Médical de Quebec*, for May, recommends dusting the surface of the chancre with finely pulverized nitrate of lead—plumbi nitras—a crust is formed which becomes detached after thirty-six hours, leaving a simple wound which heals promptly.

CHANCROIDS.

R.	Acidi borici		
	Zinci sulphatis, āā	ʒi	4
	Tinct. opii	ʒii	64
	Aquæ rosæ, q. s. ad	ʒiv	128

M. Ft. lotio. Sig. As a local application two or three times a day.

Chronic Laryngitis.

R.	Thymol	gr. xv	1	
	Eucalyptol	gr. xx	1	33
	Creosoti	ʒii	8	
	Ol. gaultheriæ	ʒi	4	
	Ol. pini sylvestris	ʒv	20	

M. Sig. Inhale five or six drops four or five times a day.

Goiter.

R.	Iodini (crystals)	gr. ii		12
	Potassii iodidi	gr. iv		25
	Alcoholis	ʒi	4	
	Syrupi simplicis	ʒi	4	
	Aquæ destil.	ʒii	64	

M. Sig. One teaspoonful in water one hour after eating, three times a day.

Pediculosis Pubis.

R.	Hydrargyri chloridi corrosivi	gr. i		06
	Aluminis	gr. xx	1	33
	Amyli	ʒii	8	
	Aquæ q. s. ad	ʒiv	128	

M. Sig. Apply locally three or four times a day.

Ringworm—Tinea Circinata.

R.	Hydrargyri ammoniati		
	Sulphuris loti, āā	ʒi	4
	Vaselini	ʒi	32

M. Sig. Apply locally to the affected part night and morning.

Warts—Verrucae.

R.	Acidi salicylici		
	Alcoholis, āā	ʒi	4
	Aetheris sulphurici	ʒii	8
	Collodion, q. s. ad	ʒi	32

M. Sig. To be painted upon the warts daily.

It is the consensus of opinion that some preparation containing salicylic acid is the best for the removal of warts.

R.	Paroformi	gr. xlv	3
	Collodion, q. s. ad	ʒi	32

M. Sig. Apply locally to the warts night and morning.

Dr. Mense, in the *Medical Review*, recommends paraform on account of its penetrative power. It is a white crystalline solid with the formula $(HCOH)_3$ and is sometimes recommended as an antiseptic in doses of .5 to 1 gm. in diseases of the intestinal tract.

R.	Tinct. iodini	ʒi	32

Sig. Take ten drops in a wineglass of water three times a day.

This preparation of iodin is regarded by Murrell, of London, as the best remedy in ulcer of the stomach.

Paralysis Agitans.

R. Tablets hyoscinæ hydrobromatis, āā . . gr. 1/200

No. xv. Sig. One tablet, hypodermatically once or twice daily.

Erb has had success with this preparation in so diminishing the tremor of paralysis agitans that the patient is able to work. In this connection it is well to bear in mind that the other alkaloid of hyoscyamus is hyoscyamina hydrobromas, which can be given in double the sized dose of hyoscin.

Fetid Breath.

R.	Sodii bicarbonatis		
	Saccharin		
	Acidi salicylici, āā	ʒss	2
	Alcoholis, q. s. ad	ʒiii	96

M. Sig. One teaspoonful in a glass of water as a mouth wash.

Sweating of the Hands.

℞. Sodii boratis (borax) ..... ℥iv 16
Acidi borici ..... ℥i 4
Acidi salicylici ..... ℥iv 16
Glycerini
Alcoholis diluti, āā ..... ℥ii 64

M. Sig. Apply with friction three or four tims a day.

—*Journal de Méd de Paris.*

Chronic Parenchymatous Nephritis.

℞. Tinct. cantharidis ..... m. xxiv 1 | 5
Liq. ferri et ammonii acetatis, q. s. ad. ℥iii 96

M. Sig. One teaspoonful every four hours as a diuretic.

Salinger recommends this prescription as a valuable diuretic and curable remedy in chronic parenchymatous nephritis. He records cases in which the amount of urine per diem was greatly increased. He emphasizes the importance of giving the cantharides, in small doses, so as not to produce irritation.

Cracked Nipples.

℞. Potassii permanganatis ..... gr. xlv 3
Aquæ destil., q. s. ad ..... ℥iii 96

M. Sig. Apply to the nipples several times a day.

Dr. Arthur Giles recommends this preparation in case of cracked nipples, and states the parts heal under this treatment in about eight days. The nipples should be washed in warm water after each nursing.

℞. Orthoformi ..... gr. xlv 3
Lanolini, q. s. ad ..... ℥i 32

M. Ft. unguentum. Sig. To be applied locally to the nipples night and morning.

To Cleanse the Mouth.

℞. Tinct. myrrhæ
Tinct. capsici, āā ..... ℥i 4
Aquæ destil., q. s. ad ..... ℥iv 128

M. Sig. Use as a mouth wash four or five time a day.

Stomatitis.

℞. Acidi borici ..... ℥iii 12
Tinct. benzoini ..... ℥iss 6
Aquæ destil ..... ℥i 32
Syrupi simplicis, q. s. ad ..... ℥iv 128

M. Sig. Locally in the mouth four or five times during the day.

℞. Potassii chloratis ..... gr. xv 1
Aquæ destil ..... ℥iiss 80
Syrupi rubi idæi, q. s. ad ..... ℥iii 96

M. Sig. One teaspoonful to be taken internally every two hours.

Laxative for Children.

℞. Pulveris rhei ..... gr. xxiv 1 | 50
Sodii bicarbonatis ..... ℥i 4
Pulveris ipecacuanhæ ..... gr. iv | 25
Syrup simplicis, q. s. ad ..... ℥iv 128

M. Sig. One teaspoonful every three hours until the bowels move.

For a child of 6 years, or older.

Gastralgia.

℞. Codeinæ phosphatis ..... gr. 1/4 | 015
Bismuthi subnitratis ..... gr. v | 30
Saccharī lactis ..... gr. iii | 18

M. Sig. At one dose. To be repeated every two hours until relieved.

Leucorrhea.

℞. Acidi tannici ..... ℥v 20
Alcoholis ..... ℥iii 12
Creosoti ..... ℥ii 8
Aquæ, q. s. ad ..... ℥iv 128

M. Sig. Teaspoonful to a quart of warm water as a douche three times a day.

Toothache.

℞. Chloroformi
Linim. aconiti
Tinct. capsici, āā ..... m. xxx 2
Ol. caryophylli
Camphoræ, āā ..... m. xx 1 | 33

M. Sig. Apply a few drops on pledget of cotton.

—*Bulletin Gen. de Thérapie.*

Eczema of the Scalp.

℞. Acidi salicylici ..... gr. vi | 36
Menthol ..... gr. xii | 72
Ol. lini
Aquæ calcis, āā ..... ℥i 32

M. Sig. Apply externally to the scalp night and morning.

—*Steinhardt.*

Itching of Jaundice.

℞. Icthyoli ..... ℥ii 8
Spiritus vini recti ..... ℥ii 64
Aetheris, q. s. ad ..... ℥iv 128

M. Ft. lotio. Sig. To be used externally for the itching.

Painful Menstruation.

℞. Codeinæ ..... gr. ii | 12
Chloralis hydratis
Sodii bromidi, āā ..... ℥ss 2
Aquæ camphoræ ..... ℥ii 64

M. Sig. One dessertspoonful in water upon retiring at night.

Styptic for Bleeding Gums.

℞. Tinct. krameriæ ..... ℥i 4
Chloroformi ..... m. viii | 5
Acidi tannici
Menthol, āā ..... gr. iv | 24
Aquæ destil ..... ℥ii 64

M. Sig. Apply locally.

—*Viau, in Med. Record.*

Epistaxis.

℞. Alumnol ..... ℥i 4
Aquæ destil., q. s. ad ..... ℥ii 64

M. Sig. Use as a spray to check the hemorrhage.

Alumnol is obtained by a reaction between a barium compound and aluminum sulphate. It is a white powder, very soluble in water or glycerin. It is incompatible with alkaline solutions, the hydrate of alumina being precipitated.

Poison from Rhus Toxicodendron—Poison Vine.

℞. Sodii sulphitis ..... ℥i 4
Glycerini ..... ℥ss 16
Aquæ camphoræ, q. s. ad ..... ℥iv 128

M. Ft. lotio. Sig. Apply locally to the affected part by means of sterilized gauze.

Medicolegal.

No Set Form of Words Required.—According to the Court of Criminal Appeals of Texas, in Winfrey vs. State, no set form of words should be required in a dying declaration to show that the declarant was under belief of speedily impending death. The court, it holds, must draw a rational conclusion from all that was said, taken in connection with such surrounding circumstances as must have been known to the declarant, as to whether he was in such a condition of mind as would render his declaration competent.

Can Show Dog Bite to be Worse than Cut.—The Supreme Court of Iowa holds in Sanders vs. O'Callaghan that in an action brought to recover damages for injuries resulting from the bite of a dog it may be shown by medical experts that the wound made by a dog is more painful to a patient than one made by a clean instrument. Likewise, it holds that it may be shown that the two classes of wounds would be treated differently, and that such witnesses may be asked as to what is the usual and ordinary effect of a dog bite, even when there is no evidence that any poison was injected thereby, it being shown that the wound in question was slow of healing.

Held to Have Had Testamentary Capacity.—In re Hewitt's Will it is stated that the will was executed according to legal forms in one of the intervals between the periodic attacks of drunkenness to which the testatrix was subject, and at a time when she had been sober for about three or four weeks. The evidence was substantially uncontradicted that during her intervals of sobriety she appeared to be rational, and conversed intelligently on many subjects. But to sustain the contest several reputable physicians were called as witnesses. One of these never knew the testatrix, and judged of her mental

capacity from an autopsy made by him on her remains. The others saw her only while she was greatly intoxicated, or suffering acutely from alcoholic excesses. The conclusion from all the evidence reached by the Surrogate's Court of New York County, New York, is that at the time the will was executed the testatrix was of sufficient testamentary capacity. The opinions of the medical experts as to what her condition probably would be at other times than when she was intoxicated or suffering from alcoholic excesses, it holds, could not be suffered to override direct evidence of what that condition then actually was.

Examiner's Knowledge of Prior Application.—An applicant for fraternal benefit insurance, who warranted every statement made by him in his application to be true, stated therein that he had never before applied for membership in that order. The application was approved by the medical examiner-in-chief. But when suit was brought by the beneficiary to recover the insurance the association set up a breach of warranty, and showed that about five years before the date of the application the insured had made a previous application to a different subordinate branch, and that such application had been rejected by the medical examiner-in-chief. To meet this line of defense, it was argued that the examiner-in-chief at the time he approved the application for the certificate in suit knew, or was chargeable with knowledge, of the prior application and rejection; that his knowledge was to be deemed the knowledge of the association; and that, therefore, the latter, having issued the certificate and received the assessments thereon with full knowledge of facts that would render it void, should not be permitted to defeat a recovery by proving such facts. This view was adopted by the trial court. The third appellate division of the Supreme Court of New York, however, rejects it, and reverses the judgment of the court below rendered in the beneficiary's favor. Even assuming that the medical examiner-in-chief knew, when he approved the second application, the circumstances of the previous transaction, the court holds, Desmond vs. Supreme Council, Catholic Benevolent Legion, that his knowledge was not chargeable to the association, and that it had the right to avail itself of the defense of breach of warranty. Of course, it is left to be inferred, it might be otherwise, if his action had been more than a preliminary step in the transaction, and if it had been a part of his duty to issue or deliver the certificate.

Waiver of Privilege in Action for Services.—In an action brought by a physician to recover for medical services a counterclaim for damages was set up, the defendant and his wife testified as to his symptoms and treatment during his entire sickness, and he called as witnesses two surgeons who testified that they were called, and found him suffering from a disease other than that for which the plaintiff had been treating him, and performed two operations upon him, after which he speedily recovered. Then the plaintiff called as witnesses two physicians who had been called in consultation, by the defendant's consent, but at different times, before the two surgeons mentioned were called in. The evidence of these two physicians as to their interviews with the defendant, and what they then learned, was strenuously objected to by him as privileged and inadmissible under the statute. But not so thinks Judge Dunmore. He holds, Hennessy vs. Kelley, in Oneida County Court, New York, that, as applied to the facts of this case, the decisions seem to be that the defendant had the right to insist that all the physicians who attended him should remain silent as to his ailments, and as to any personal communications between him and them of a confidential nature. But when he testified in his own behalf as to the way he had been treated by the different physicians, gave conversations, between him and them, uncovered the maladies from which he was suffering, both by his own testimony and that of other witnesses, including that of two of the physicians who attended him, he waived the privilege as to the remaining physicians in reference to the matters disclosed. He then uncovered and made public what before was private and confidential. It amounted to a consent on his part that all who were present and participated in the various transactions disclosed might speak freely as to what took place. When a waiver is once made, it is general, and not special, and its effect can not be limited to a particular purpose or a particular person. After the information has once been made public, no further injury can be inflicted upon such rights and interests of the patient as the statute was intended to protect, by its repetition at another time or by another person. The rule contended for by the defendant, the court says, would leave a physician absolutely at the mercy of an unscrupulous patient.

Unvaccinated Pupils in Schools.—Section 24 of chapter 45 of the session laws of Utah of 1899 provides: "Local boards of health shall have jurisdiction in all matters pertaining to the preservation of the health of those in attendance upon the public and private schools in the city, to which end it is hereby made the duty of each of the local boards of health: To exclude from said schools any person, including teachers, suffering with any contagious or infectious disease, whether acute or chronic, or liable to convey such disease to those in attendance," etc. Does this confer authority upon such a board of health to prescribe and enforce a rule excluding unvaccinated pupils from school during the prevalence of smallpox, and so long as the emergency continues? The Supreme Court of Utah holds that it does, in the mandamus case of the State, on the relation of John E. Cox vs. the Board of Education of Salt Lake City. That is to say, it holds that authority to exclude those who are "liable to convey" such infectious disease as smallpox to those in attendance on the public schools empowers a local board of health to exclude all unvaccinated pupils from the public schools while the disease of smallpox is prevalent and an emergency on account thereof exists. More than that, it pronounces it a reasonable regulation in aid of the promotion of the public health for such board of health to prohibit all unvaccinated pupils from attending and meeting together in the public schools at such a time. In other words, it holds that, where no attempt is made on the part of the board of health to compel vaccination, but during the emergency an option is given the pupil, who is liable to convey the disease into the schools, to be vaccinated or remain away from the schools until the danger from smallpox is past, the order is justified under the police power inherent in the state, and such power is delegated by statute. However, the court says that compulsory vaccination is not authorized by the statute, and that this holding must not be construed as empowering the board to require compulsory vaccination without the consent of the patient. On the other hand, it holds that, although the constitution of the State of Utah is silent on the subject of controlling contagious diseases, no one person has the legal right to infect another with smallpox, and that the statute can not be construed as conferring that right upon any person or class of people. All boards of health, it also says, have general power under the statute to promptly and effectually protect all persons from impending pestilence and disease. But the exercise of the power is controlled, and, when called upon, the board must show that its acts are justified by the facts in the case.

Not Liable for Injury from Examination.—In the case of Pearl vs. the West End Street Railway Company it was sought to charge the company with the alleged results of a doctor's examination of the plaintiff. The plaintiff had had an accident, and had sued the company, whereupon the latter forthwith sent a doctor to examine him. The plaintiff's trouble was in his left leg, and the doctor, after directing him to stand upon his right leg told him to stand upon his left leg. The man said that he could not, and his own doctor also said that he could not bear his weight on that leg. The examining doctor then told him to "try standing on his left leg." He tried it, fell, and here attributed subsequent hysterical trouble to that cause. Under these circumstances, the Supreme Judicial Court of Massachusetts holds that a verdict was properly directed in favor of the company. It says that it would be a strong thing to say that the evidence warranted finding any one responsible for the accident except the plaintiff himself. The doctor's request that he should try standing on his left leg was not medical advice or direction upon a matter as to which the plaintiff had put himself in the doctor's hands. On the contrary, it came from one who avowedly was in an adverse interest, and who had no authority of any kind. Furthermore, it recognized in its very words that perhaps the man

was right in thinking that he could not stand in that way. It only called on him for an experiment in a region of admitted doubt. How far the experiment should go necessarily was left to the man himself when he should make it. If he carried it too far, the doctor was not to blame. Moreover, the court holds, the doctor was not an agent or servant of the company in making his examination. He was an independent contractor. There is, the court continues, no more distinct calling than that of the doctor, and none in which the employee is more distinctly free from the control or direction of his employer. In this case, the doctor was informing himself, according to the suggestions of his own judgment, in order to advise and perhaps to testify for the company. And, it must be assumed, in the absence of other evidence than his profession and purpose, the court adds, that what he should do and how he should do it was left wholly to him. Nor does it consider material the exclusion of evidence that went to the general skill of the doctor's examination, the ground of the claim being a specific fact, definitely stated. Besides all of which, it rejects, as not maintainable, an argument drawn from the liability of a litigant for his attorney. The liability of client for attorney, it explains, is the result of a special series of events, and can not be allowed to found a general rule.

Texas View of an Accredited Medical College.—The Court of Criminal Appeals of Texas finds error in the conviction, in the case of Aldenhoven vs. State, of a holder of a diploma from the Independent Medical College of unlawfully practicing medicine in Gonzales county, for pay, without first having obtained a certificate of professional qualification from the authorized board of medical examiners, and without having a diploma from some accredited medical college chartered by the legislature of the state, or its authority, in which the same is situated. At the trial, the state introduced as witnesses several physicians who testified that the Independent Medical College was not on the list of accredited medical colleges. This was objected to because it was the opinion of the witnesses, and because their opinion was based upon hearsay, and not upon proper information, they having stated that their authority for saying that said medical college was not an accredited one was Polk's Medical Register, a book published by a private concern, and not by any state or medical board created by any state. The court holds that the objection was well taken. It holds that this testimony was clearly inadmissible for any purpose. It says that it was the opinion of witnesses, and was hearsay of hearsay. It was not shown that Polk's Medical Register was any other than hearsay, and the mere fact that it was a book purporting to give a list of accredited medical colleges, the court continues, would not make it admissible. Furthermore, the court holds that the opinion of witnesses as to whether this particular college was an accredited medical college was not admissible, since the state statute itself defines the term "accredited medical college." It refers to article 438 of the penal code of Texas, which provides for the punishment by fine, "if any person shall practice for pay, or as a regular practitioner, medicine, in this state, in any of its branches or departments, or offer or attempt to practice without first having obtained a certificate of professional qualification from some authorized board of medical examiners or without having a diploma from some accredited medical college, chartered by the legislature of the state or its authority, in which the same is situated." Under this article, the court holds, a person is not required to have a certificate of qualification from authorized medical examiners, and also a diploma; in order to free him from a prosecution, but if he has either, he is not subject to prosecution. And the latter clause of the article, the court takes it, is a clear definition as to what the statute means by the term "accredited medical college;" that is, an accredited medical college, within the terms of this article, means a college "chartered by the legislature of the state, or its authority, in which the same is situated." Hence, the court holds, if a party has a diploma from such a college, then he will not be subject to a prosecution for violating this article, and, if he has not, he can be so prosecuted.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), August 4.

1 *Cancer of the Stomach and Intestines. B. Farquhar Curtis.
2 *Hydrotherapy in Pneumonia. Simon Baruch.
3 *Use of Hypnotism in General Practice. E. H. Martin.
4 *Some Points Bearing on the Medicinal Treatment of Appendicitis. Charles Rosewater.

Philadelphia Medical Journal, August 4.

5 *Morbid Conditions Caused by the Bacillus Aerogenes Capsulatus. Wm. H. Welch.
7 Case of Conjunctival Burn; Recovery Without Symblepharon. Witt G. Wilcox.
7 Case of Conjunctival Burn; Recovery Without Symblepharon. Howard F. Hansell.
8 *Congenital Tuberculosis. Benjamin F. Lyle.
9 Antistreptococcic Serum—Case in which It Was Used with Apparently Remarkable Results. D. H. Galloway.

New York Medical Journal, August 4.

10 *Treatment of Metacarpal Fracture. Carl Beck.
11 Present State of the Galvano-Caustic Operation of Bottini for Ischuria. (Concluded.) Granville McGowan.
12 *Appendicitis: When to Operate. J. H. Carstens.
13 *Hysteria: Its Nature and Etiology. Charles Louis Mix.
14 Vulvovaginitis in Children. Herman B. Sheffield.
15 Case of Enlargement of the Liver and Spleen Succeeding Chronic Catarrhal Cholangeitis. Stanley S. Cornell.
16 Glandular Complications of Acute Follicular and Acute Suppurative Amygdalitis when Accompanied with La Grippe. Wendell C. Phillips.

Medical News (N. Y.), August 4.

17 *Treatment of Summer Diarrhea in Infants. Charles G. Kerley.
18 *On Methods of Closure of Abdominal Incisions. Maurice H. Richardson.
19 *The Consumptive in Los Angeles. Wm. H. Dukeman.

Cincinnati Lancet-Clinic, August 4.

20 *Extravasation of Urine. S. P. Kramer.
21 *Should Military Medical Science be Taught in Our Medical Colleges? Edmund C. Brush.
22 Valedictory Address at the Training School for Nurses of the Jewish Hospital. Henry W. Bettmann.

Boston Medical and Surgical Journal, August 2.

23 *Asphalt Pavements; Their Nature and Desirability. Clifford Richardson.
24 *Transportation of Disease by Dust. Harold C. Ernst.
25 *Effects of Dust upon the Lungs. Vincent Y. Bowditch.
26 Effects of Dust on the Upper Respiratory Tract. Samuel W. Langmaid.
27 *Recurrent Luxation of the Ulnar Nerve. E. J. Cotton.

St. Louis Medical Review, July 21.

28 *The Researches of Apathy and Bethe and Their Effect upon the Conception of the Neuron. Sidney I. Schwab.
29 How Food May be a Causative Factor of Disease. Samuel E. Earp.

Medical Fortnightly (St. Louis, Mo.), July 25.

30 Illustrations of Vasectomy, or Obliteration of the Seminal Ducts Relative to Hypertrophy of the Prostate and Bladder Atony. Reginald Harrison.
31 Pus. David W. Reid.

American Practitioner and News (Louisville, Ky.), July 1.

32 Compound Fracture: With Report of a Case. W. C. Simmons.
33 Mastoiditis: With Case in Point. D. C. Bowen.
34 *Some Advances in Minor Surgery. A. J. Slaton.
35 *Mucous Disease. Philip F. Barbour.

Medical Age (Detroit), July 25.

36 Some Deformities Corrected, Etc. (Continued.) Daniel La Ferte.
37 Acute Diseases of the Suprarenal Capsule. D. C. Brockman.
38 Therapeutic Use of Guaiamar—A Plea for its Further Use in Phthisis Pulmonalis. Jerome T. Gardner.

Buffalo Medical Journal, August.

39 *Puerperal Infection. Matthew D. Mann.
40 *Modern Treatment of Prostatic Hypertrophy. Herman Mynter.
41 *Early and Late Operations for Appendicitis. Eugene A. Smith.
42 Symptomatology of Early Ectopic Gestation. Maud J. Frye.
43 The Recent Epidemic of Measles in Buffalo. F. C. Gram.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), August.

44 President's Address before the American Dermatological Association. H. W. Stelwagon.

Quarterly Journal of Inebriety (Hartford, Conn.), July.

45 History of Experimental Investigations Concerning the Influence of Alcohol and Alcoholic Drinks on the Functions and Structures of the Living Animal Body by American Investigators. N. S. Davis.

46 *Dipsomania and Its Treatment by Suggestion. J. Milne Bramwell.
47 *Some Injuries from the Use of Opium in Infancy. T. D. Crothers.
48 The Effect of Small Doses of Alcohol on the Brain. Victor Horsley.
49 Is Alcohol a Food? (A Reply to Prof. W. O. Atwater.) Winfield S. Hall.

Peoria Medical Journal, July.

50 Medicolegal Status of Abortion. O. B. Will.
51 Reminiscences of Capital Surgery under Difficulties; with Remuneration in Each Case. John I. Skelly.

Medicine (Detroit), August.

52 *Examination of the Sputum for Tubercle Bacilli. Carl Weidner.
53 *Ankle Sprains. Edward H. Ochsner.
54 Conjunctivitis and Its Treatment; With Special Reference to the Use of Nuclein Solution Five Per Cent. in Conjunctivitis Lymphatica. J. Ivimey Dowling.
55 *Treatment of Abortion. Henry B. Stehman.
56 *Chloretone as a Hypnotic and Local Anesthetic. Freeman F. Ward.

Toledo Medical and Surgical Reporter, August.

57 Actual Experience with Wounds Inflicted by Modern Military Projectiles vs. Theory. Charles B. Nancrede.
58 Treatment of Typhoid Fever in Adults. R. S. Walker.

American Journal of The Medical Sciences (Philadelphia), August.

59 *Clinical Notes of Cases of Pernicious Anemia. Frederick P. Henry.
60 *Pernicious Anemia: A Study of One Hundred and Ten Cases. Richard C. Cabot.
61 *Experimental Research Showing that Uric Acid Secretion is Not Regularly Diminished in the Period Preceding Epileptic Seizures. James J. Putnam and Franz Pfaff.
62 *Minor Forms of Cardiac Dilatation. Beverley Robinson.
63. Endothelioma of the Skin Developing in the Scar-Tissue of Lupus Vulgaris; Angiosarcoma of the Skin. J. A. Fordyce.
64 *A Comparative Study of Digitalis and its Derivatives. John P. Arnold and Horatio C. Wood, Jr.
65 Multilocular Cystoma of the Pancreas. Reginald H. Fitz.

Illinois Medical Journal, August.

66 *Ankle Sprains. Edw. H. Ochsner.
67 *Two Cases of Intestinal Obstruction following Vaginal Hysterectomy and One After Pelvic Abscess, with a Secondary Operation in Each Case. A. Goldspohn.
68 *Is Pneumonia Contagious? J. T. M'Anally.
69 *Have We Smallpox? H. C. Mitchell.
70 *Appendicitis—Perineal Operation in the Male and Vaginal Incision in the Female. E. M. Sutton.
71 *California as a Health Resort. John H. Hollister.
72 *Diagnosis of Tumors of the Spinal Cord and Its Membranes. Frank P. Norbury.

Ophthalmic Record (Chicago), July.

73 *An Insurance Case in Which Ossification of the Choroid Led to the Identification of the Body. Robert L. Randolph.
74 Glaucoma with Extensive Retinal Hemorrhages from Homatropin. H. Gifford.
75 *Vision and Seasickness. Arthur F. Sumner.
76 *Tobacco Amblyopia. Henry A. Polkinhorn.

Columbus Medical Journal, July.

77 *Diagnosis of the Attitude of the Fetus in Utero by External Examination. E. Gustav Zinke.
78 Plea for the Earlier Use of the Obstetrical Forceps. J. M. Fassig.
79 Hydrophobia. Albert Cooper.
80 The "Optician" and the Medical Registration Act. Chas. A. Hough.
81 Acute Mastoiditis Following Infectious Diseases. J. W. Murphy.

Western Medical Review (Lincoln, Neb.), July 16.

82 *Mountain Fever. E. Stuver.
83 *Psychic Shock or Insult: Its Relation to Certain Mental and Physical Conditions. Jay G. Roberts.
84 *Is Altitude an Etiologic Factor in Insanity. Charles H. Solier.
85 *Case of Cystic Teratoma Complicated with Hemorrhage. E. Hornibrook.
86 Bilateral Nephropexy and Operation for Chronic Appendicitis Through Right Lumbar Incision. J. Cameron Anderson.

Memphis Medical Monthly, August.

87 Five Years' Experience with the Antiseptic Treatment of Typhoid Fever. J. A. Crook.
88 Plea for the Extraperitoneal Method of Dealing with Fibroid Uteri. J. P. Runyan.
89 Pus in the Pelvis. John L. Jelks.
90 Conservative Treatment of Appendicitis. J. P. Runyan.
91 Injection vs. Enucleation. S. E. Pincus.
92 Puerperal Convulsions—Report of Two Cases. W. M. Lambert.
93 A Tapeworm of Unusual Length. M. O. Shivers.

Pennsylvania Medical Monthly (Pittsburg), July.

94 *Brain Tumors—A Report of Seventeen Cases, with an Analysis of the Surgical Treatment in Twenty-four Cases. Theodore Diller.
95 Report of Cases of Brain Surgery. I. P. Klingensmith.
96 Gunshot Wound of the Intestine. R. S. McKee.
97 Obstetric Forceps and the High Operation. J. S. Miller.
98 Causation and Symptoms of Appendicitis. R. W. Stewart.
99 Treatment of Appendicitis. J. J. Buchanan.

Alabama Medical Journal, July.

100 Diagnostic Value of Endoscopy and Cystoscopy. James E. Dedman.
101 Prevention. R. C. Bankston.
102 History of Outbreak of Smallpox at Alabama City. Erasmus T. Camp.
103 Notes on Some of the Newer Remedies. H. A. Moody.

Merck's Archives (N. Y.), July.

104 *Cannabis Indica.. H. Edwin Lewis.
105 A Therapeutic Study of Iodin. A. G. Minshall.
106 *Value of Ergot to the General Practitioner and Gynecologist. J. H. Jackson.

Medical and Surgical Monitor (Indianapolis, Ind.), July 13.

107 Clinical Remarks on Diagnosis. Joseph Eastman.
108 *The Nuclear Structure of Bacterial Cells. Walter E. King.
109 The Importance of Chemistry in the Medical Course. John F. Benham.
110 Concomitant Measles, Chickenpox and Smallpox. Otto Lerch.
111 Report of a Case of Dermatitis Exfoliativa Recurrens. A. R. Robertson.
112 Typhoid Fever in Childhood, with a Report of Three Cases. E. D. Fenner.
113 Two Cases of Severe Blepharospasm and Facial Chorea Relieved by the Use of Spectacles. Drs. Bruns and Robin.
114 Treatment of Acute Jaundice. J. C. Wilson.
115 Interesting Examples of Traumatic Neuroses. F. X. Dercum.

International Journal of Surgery (N. Y.), August.

116 Treatment of Fractures. (Continued.) W. L. Estes.
117 Notes of Progress in Surgical Gynecology. A Brief Review. Franklin Staples.
118 *Modern Pathology and Treatment of Appendicitis. Pinckney French.
119 Regional Minor Surgery. (Continued.) George G. Van Schaick.
120 *Plea for the Better Study of Diseases of Women by the General Practitioner. W. B. Pigg.
121 Infiltration Anesthesia. Wm. Lohmann.
122 Preparation of Patient for Surgical Operation. Charles W. Oviatt.
123 Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
124 Recurrent Appendicitis—Tuberculous Disease of the Knee-Joint. Charles McBurney.

Journal of Medicine and Science (Portland, Me.), July.

125 Some Aspects of Evolution. W. A. V. Wiren.
126 *Digestive Enzymes vs. Bacteria. G. M. Randall.
127 Masso-Therapeutics. E. H. Judkins.
128 Purulent Galactophoritis. F. W. Larrabee.

Southern Practitioner (Nashville, Tenn.), August.

129 Ductless Glands. Geo. H. Price.

Medical Examiner and Practitioner (N. Y.), July.

130 *Pathology and Etiology of Acute Articular Rheumatism. J. C. Young.
131 Causes and Pathology of Gout. E. W. Lambert.
132 *Experience of the Union Central Life Insurance Company with Female Risks. John L. Davis.
133 Should the Fact that an Applicant has had Dropsy Necessarily Debar Him from Insurance. Theodore L. Hatch.

Medical Review of Reviews (N. Y.), July 25.

134 *Submucous Ligature for Rectal Hemorrhoids and Prolapse. B. Merrill Ricketts.

AMERICAN.

1. **Cancer of the Stomach and Intestine.**—The outcome of operations for the cure of cancer of the stomach is difficult to state, but is certainly encouraging. The dangers of resection seem to be lessening, and the limitations that were put upon the operation by surgeons formerly are being removed by modern experience. The size of the tumor seems to be of comparatively less importance, as the whole stomach has been extirpated, and the presence of adhesions with modern methods only prolongs the operation. The presence of enlarged glands is not an absolute contraindication, for it has been found sometimes that they are not carcinomatous. It is important that an early diagnosis should be made for the safety of the patient, and where no tumor is found this is sometimes difficult. If, as Hemmeter, says, rapid emaciation takes place, with stomach symptoms, absence of hydrochloric acid, with presence of lactic acid, while the power of digesting albumin has been reduced under 30 per cent. of the normal, the Oppler-Boas bacillus is found and no improvement occurs from medical treatment for several weeks, it may be assumed that cancer

is present. The modern indications for operation are: 1, presence of tumor; 2, dilatation of stomach; 3, obstructive vomiting; 4, chemical changes in the gastric contents, even where the symptoms are slight; 5, hematemesis; 6, severe gastric pain. All these might indicate only benign disease, but even in that case, operation might be advisable. Curtis reports three cases of operation with benefit and calls attention to the relations of chronic ulcer to carcinoma. It is probable that if a thorough study of the cases is made, severe gastric lesions will be found to have existed long before malignant disease commenced. He believes that operation should be advised even if the diagnosis is not altogether certain and that it will probably reveal in any case some definite conditions which can be relieved. Even if the case is of long duration, and seems unfavorable, there is still a possibility that laparotomy may bring out something to the patient's advantage and improve his chances. Carcinoma of the intestine is next taken up and the differential diagnosis is to be made from obstinate chronic suppuration or constipation, alternated with diarrhea. Though it must be remembered that chronic diarrhea with mucopurulent discharge may be only a symptom, the indication for operation is urgent when the above symptoms appear in combination, and such patients should be examined thoroughly and repeatedly by palpation of the abdomen and rectum. The diagnosis of the exact site of the lesion can be made in many cases if care is taken. Surgical treatment consists in the removal of the tumor or the relief of the obstruction without attempting to remove it. The mortality is serious, but is being reduced. The palliative operation consists in the formation of an artificial anus or making an anastomosis between the bowel at a point below and above the stricture, to which latter operation may be added the so-called exclusion of the diseased part of the bowel. Curtis thinks, however, that neither of these methods should be attempted in the presence of obstruction. In this event the only method is to form an artificial anus. He is not favorable to the forming of intestinal anastomosis in most cases. It has the disadvantage of the operation being conducted in the immediate vicinity of the diseased tissues, which may necessitate another operation later.

2. **Hydrotherapy in Pneumonia.**—Baruch sums up the effects of hydrotherapy in pneumonia by saying, while it is not a direct nerve agent it fulfils all the therapeutic indications, forestalling or controlling all the depreciating elements of the disease. Only one condition is unaffected, viz., resolution. He has observed the crisis in only about 25 per cent. of the cases. The local course of the disease appears to be changed, resolution proceeds more slowly but more surely, the patient has a normal temperature and pulse, and almost normal respiration for from five to twenty days before all signs of consolidation have disappeared. In the meantime, he permits him to go out in warm weather and endeavors to hasten convalescence by the usual methods, good food, out-door exercise, ventilation, etc. He can explain this delay of resolution only theoretically by presuming that more cases are saved that way, and those who do not have the crisis and rapid resolution would probably add to the great silent majority or pursue a slow convalescence. He uses in adults, as a rule, a wet thoracic compress, instead of a full bath, though in children he employs the full bath with moderate temperature.

3. **Hypnotism in General Practice.**—Martin calls attention to what he deems the value of hypnotism in general practice, and reports cases where he has used it with benefit. Among the conditions in which he recommends it are: Insomnia, nausea of pregnancy, wrenched back, toothache, etc. He thinks that if it were properly used it might have something to do with discouraging the tendency to wander off after the false gods of osteopathy and "Christian science," and other such methods of cure.

4. **Appendicitis.**—Rosewater describes his method of medical treatment of appendicitis in cases where surgery is objected to or seems unnecessary. He thinks enemas with salt water, calomel, purges, ice applications, liquid diet, with salol and caffein to relieve fever and nervous manifestations, are useful. When the inflammation subsides he thinks ammonium iodid in doses of one to three grains every four hours, with copious draughts of hot water, to hasten the removal and destruction of inflammatory exudate is advisable. He gives hot water freely in all cases and in large quantities.

5.—This article appeared elsewhere; see THE JOURNAL of August 11, ¶16, p. 385.

6. **Ectopic Pregnancy.**—Wilcox notes the conditions which may be confused with ectopic pregnancy, and calls attention to the necessity of noting the forgotten early history in some late cases. Cases have actually happened where a woman suffers from vague symptoms which may be referred to other causes, and only the most careful inquiry will bring out the facts necessary for the diagnosis. There is only one safe treatment, and that is operation. He reports two cases which show the comparative ease of recognizing tubal pregnancy before rupture.

8. **Congenital Tuberculosis.**—A case reported by Lyle is that of a child which was born of a consumptive woman who had borne another child during the existence of her disease. Her death occurred at the birth of her last child, which survived several weeks and increased in weight from three and one-half to five pounds, but on post-mortem it was found to have generalized tuberculosis. He thinks it a case of congenital tuberculosis, and the only possible source of the bacteria was from the mother's blood. The intestines and mesenteric glands were free from indication of the disease, which would show that it did not contract it through its diet. The child was ill throughout practically its whole existence.

10. **Metacarpal Fracture.**—Beck publishes a method of holding in position the replaced fragments in metacarpal fracture which he believes is superior to any other device, viz., the use of rubber tubing for splints. The elastic pressure kept up seemed to produce better results than other methods.

12. **Appendicitis—When to Operate.**—According to Carstens we should operate in appendicitis as soon as the diagnosis is made, except: 1, when the environments are bad; 2, when no experienced operator or proper facilities are at hand; 3, in mild, first attacks.

13. **Hysteria.**—This paper, by Mix, treats of the origin of hysteria, which he thinks is probably due to a defective anatomical relationship of the neurones, deformities too fine to be detected by the present methods, which give rise to the disturbance of normal relationships that constitutes hysteria. He remarks on the necessity of looking out for any organic symptoms in the diagnosis, and we must be sure that when hysteria is seen to be present nothing else is present, and that it is not merely a complication or environment. The causes are reviewed. The predisposing ones are: 1, heredity, race, age—it occurring usually between 12 and 20—sex, disease of the sexual organs, faulty education and home treatment. The exciting causes he reduces to psychic and physical trauma, suggestion and possibly toxemias.

17. **Summer Diarrhea in Infancy.**—The gravity of this condition is remarked by Kerley who, says that when the nature of the disease is appreciated the rational treatment consists chiefly in elimination and diet. We must endeavor to remove the bacteria and their products and give nourishment which will not furnish a medium for their growth and development. If the case is seen early, a teaspoonful of castor-oil and a little calomel, in divided doses, should be given. If the case is not seen until late the oil should be omitted and smaller doses of calomel, 1/4 to 1/20 of a grain hourly are indicated. The milk diet, whether natural or artificial, should be stopped at once. The stomach should be washed if there is vomiting, and if there is no vomiting, he instructs the mother to give from three to five ounces of dextrinized barley, either plain or salted, to which is added one or two ounces of chicken, beef or mutton broth. This may be alternated with a teaspoonful or two of beef juice, or one dram of liquid peptonoids added to the barley. The change is useful, as children tire of too monotonous a diet. He has practically discontinued the use of white of egg in water, as many children fail to digest it. His instructions to the mother are as follows: Add two even teaspoonfuls of barley or wheat flour to one pint of water.

This is to be boiled twenty minutes and strained, boiled water being added to make the quantity one pint. When the mixture has cooled to the temperature of 100 F. add one teaspoonful of Cereo, which is a preparation of diastase made for this purpose. If barley is used in this strength it will furnish the child a food containing approximately .64 proteids, .15 fat and .4 soluble carbohydrates. If wheat flour is used, the mixture will contain approximately, .8 proteids, .046 fat, and 2.4 soluble carbohydrates. The milk should be discontinued until the stools are nearly normal and not more than three in twenty-four hours. For the drugs he uses only about four, castor-oil and calomel, already referred to, bismuth subnitrate and opium. The latter should be given with caution and under special indications, and should never be given when the passages are less than four in twenty-four hours. For a child 1 year old 1/100 gr. morphin might be given hypodermically with 1/600 gr. atropin in case of direct infection with prostration and uncontrollable vomiting. Irrigation of the colon is mentioned and is of the greatest service when the stools are infrequent and foul, but has been considerably overdone. As regards prophylaxis, he says the clothing should be of the lightest on very hot days. The infant should be in the open air in the shade, if in the country; if in the city, the coolest room in the house is far better than the dusty streets. Whether in the city or country two or three spongings with water at 60 F. will make the child very much more comfortable. The milk should be reduced in strength from 1/4 to 1/3 on very trying days, adding water to replace the quantity removed. The mother should always wash her hands with soap and hot water before preparing the infant's food or handling any nursing apparatus, and the child with summer diarrhea should not come in contact with very young children, as it is one of the communicable diseases.

18. **Closure of Abdominal Incisions.**—After noting the advantages and disadvantages of interrupted and through-and-through methods of closing abdominal incisions, Richardson says the advantages of both may be united in a very simple combination. This method he has used considerably when from the size of the wound or thickness of the walls immediate security is desired. He first applies the interrupted sutures, which are placed about half an inch apart throughout the extent of the wound. They are then held tense, the opposing areas being brought together in such a manner that the deeper layers are closely approximated, the outer layers apart. The assistant holds these sutures by their long ends in such a way that no intestine or omentum can get caught between the intra-abdominal loops. The muscle and the fascia are still fully exposed. These are now united by interrupted sutures of silk in one or two layers. He contents himself usually with one layer. The layers of peritoneum and fascia are well enough approximated by the long strands of silkworm gut held tense by the assistant. The fascia and the muscle are now united by a single line of interrupted silk sutures. When these are satisfactorily applied, the silkworm gut sutures are one after another tied. In this way no blind spaces are left and the muscle and fascia are united by permanent sutures of silk. He has used this method in exceptional cases, and the more he uses it the better he likes it, and thinks he will come to apply it exclusively to all abdominal wounds.

19. **Consumptives in Los Angeles.**—Dukeman advises consumptives not to go to Los Angeles, as it has no special advantages for this class of cases. The city itself is not in a sanitary condition, and individuals are liable to be infected by former inhabitants of the quarters they occupy. In this paper he gives an elaborate set of rules for the personal use of the consumptive, which are excellent but can not be given in detail here.

20. **Extravasation of Urine.**—The results of extravasation are described by Kramer, who calls attention to the method he employs in all cases of perineal section. In making the operation it is desirable that the field be constantly kept free from blood so that one may know what one is cutting. After the incision is made in the perineum and the urethra opened on the grooved staff, the nozzle of an irrigator, filled with warm salt solution, is inserted into the external extremity of the urethra and a constant stream allowed to flow out of the incision. This has the advantage of keeping the field clear and presenting a constantly visible guide to the urethra and field.

21. **Military Medical Science.**—Brush advocates the instruction in military medical hygiene in our medical colleges. This country is not likely to keep a very large standing army, and the necessity of such training has been demonstrated in our recent experience. There should be a general co-operation of medical schools in this direction.

23, 24, 25. **The Dust Nuisance.**—The first article in this journal gives a thorough description of asphalt pavements and their advantages, by Clifford Richardson, an expert in this particular line of work. In the second article Ernst reviews the different forms of disease germs in their relation to the possibility of transmission in dust, his article being chiefly a synopsis of the paper by Germano in the *Zeitschr. f. Hygiene u. Infektionskrankheiten*, Bds. xxiv and xxv. He thinks that typhoid cholera, and plague bacilli seem to possess least resistance to the process of drying. Next to these come the streptococcus, the pneumococcus, and the diphtheria bacillus, which seemed to be very variable in their resistance, sometimes dying quickly and sometimes lasting for weeks and months. In the third group he places as still more resistant the diplococcus intracellularis and with it the staphylococci of suppuration, and the bacilli of tuberculosis. The fourth and last group includes the spore-producers—which in this way may resist the effects of drying for an indefinite period—such as anthrax, malignant edema, tetanus, etc. Our knowledge of the acute exanthemata is too slight to place them in any of these groups. They certainly do not belong in the first, but it may be doubtful whether they belong in the second or third. The conclusion which he draws is that the danger of this nuisance is greater from the direct irritant itself than from the chance of transmission of any infectious disease. Bowditch calls attention to its effect upon the lungs and alludes to the backwardness of the Boston authorities in the matter.

27. **Recurrent Luxation of the Ulnar Nerve.**—Cotton reports three cases of luxation of the ulnar nerve treated by splints. He concludes that this luxation of itself often gives little or no indication of its existence, it being found only after systematic examination. In traumatic cases, however, there are nerve symptoms, though not necessarily severe ones, and they usually subside gradually and independent of treatment. The operation is for luxation only and cures such symptoms as are really due to this change. It has no special drawbacks as far as it goes, but the author thinks that the nerve symptoms should be considered in deciding between conservative and operative treatment.

28. **The Researches of Apathy and Bethe on the Neuron.**—Schwab's paper takes up the question of the effects of the studies of Apathy and Bethe on the conception of the neuron, and concludes that while the ideal must be somewhat modified, and the endings of the nerve cell can not be accepted as implicitly as before, and the neuron itself may be somewhat questioned as a unit, yet the modifications are not such as to throw aside the theory as a whole. The conception of the neuron as a genetic neuroblastic derivative and limited trophic cell territory will have to be maintained, though the tendency to regard the ganglion cell as the most important and definite part of the nervous system is not perfectly correct. We may still say that the central nervous system is in possession of a definite cell unit.

34. **Some Advances in Minor Surgery.**—The procedures mentioned are: 1. Operation in malignant disease of the testicles. Slaton advises not to cut the cord at all, but after the testicle is thoroughly enucleated, to make traction on the cord, and it will usually give way near the vas deferens. The blood-vessels will be lacerated, but there will be no bleeding. He operated on two cases in this way without hemorrhage, and without ligating the cord the danger of septic infection is thus lessened. 2. Operation for imperforate anus in the new-born. He objects to the advice of Kelsey, Bryant, Ashhurst and others to draw the bowel down and stitch it to the skin. He says it seldom succeeds and he thinks it unnecessary. If the gut is close to the skin it does not need to be stitched, and if high up

stitching will do harm. He would not make an artificial anus in an infant's side at all. He thinks life under such circumstances would not be worth living, and he would rather let the child go to Heaven. 3. Operation for lacerated perineum. He objects to operating immediately after the accident, but operates several days later, using hydrogen peroxid freely during the operation, thus making a surface free from blood-clots and pus. His objection to operating immediately is, first, that the patient is exhausted and suffering, and is in no condition to be disturbed. In the second place, union by first intention is very delicate and can not overcome muscular retraction before the ligatures let go to some extent. They are useful only so long as they keep the parts thoroughly coapted, which requires no more than thirty-six to forty-eight hours. The third reason is that if you operate immediately, some blood-clots form as you close the wound, and if left there they may produce septic infection. The urine and lochial discharges will do no harm if superficial sutures are put in the vaginal rent properly. He ties the knots together and thinks no catheter is better if the patient can pass water without it.

35.—See abstract in THE JOURNAL, xxxiv, p. 1563.

39. **Puerperal Infection.**—In his retiring address as president of the Buffalo Academy of Medicine, Mann insists on the importance of avoiding any possible contamination in puerperal cases and points out the difference between simple and septic infection. He thinks that in a large city an accurate diagnosis of these cases is possible. In simple sapremic endometritis a thorough cleansing of the uterine cavity should be undertaken, but in cases of coccal infection, excepting in cases of gonococcus, the condition is critical, and an operation, by opening the tubes in the cul-de-sac of Douglas, draining away the fluid and packing with iodin gauze, is indicated. He thinks in cases of mixed infection, Pryor's plan of thus operating in every case of puerperal infection where curetting is done would be a good one. It may also be extended to opening of recent accumulations of pus in the tubes or broad ligaments, and he has thus operated with eminently satisfactory results. The question of removal of the uterus, when it is the seat of extensive infection, sometimes arises. If it is riddled with abscesses this would seem to be the only means of effecting a cure. The results, however, are not very encouraging. The uterus should be taken out by the vagina, if at all.

40. **Prostatic Hypertrophy.**—Mynter believes in castration for the relief of prostatic hypertrophy, but has little to say for vasectomy. Ligation of the internal iliac arteries is rather a formidable operation, and is dangerous in old and feeble patients. Prostatotomy, including Bottini's operation, is not without its dangers, and is indicated only in cases of hypertrophy of the middle lobe. The most modern operation is prostatectomy, and he modifies this by operating without suprapubic incision, simply pressing the prostate down by force applied over the symphysis. He thinks the Alexander operation modified in this way will be an operation of preference for the future.

41. **Early and Late Operations for Appendicitis.**—After reviewing the methods and their results Smith urges all medical men to join the class of early operators in appendicitis. He says: Do not wait for the interval. When in any possible doubt, the removal of the cause is certainly a safer procedure than medical treatment with surgery held in the background.

46. **Dipsomania and Its Treatment by Suggestion.**—Hypnotism, according to Bramwell, is a valuable agent in the treatment of dipsomania, and he reports cases which he thinks demonstrate this fact. He also quotes from other authorities who hold the same views, but offers the following points for consideration: 1. The patient must be willing to be cured. 2. Susceptibility to hypnosis varies in individuals, but fortunately deep hypnosis is not essential for good therapeutic results. 5. In dipsomania one ought to begin treatment at the beginning of quiescence from an attack, and aim at preventing, or retarding and weakening the next attack. When stimulants are taken continuously, the difficulties are greater, but the patient must be helped to reduce or discontinue their use. 4. The management of the patient during the earlier part of the treatment, before suggestion has taken effect, is important. If it is possible he should not be left alone, but always in the company of some trustworthy person. 5. The operator must be persevering and not easily discouraged. Recovery may occur after several relapses. 6. A distaste for alcohol ought to be suggested as well as the abolition of the craving. The patient must be advised that he can not be a moderate drinker. 7. Even when the craving disappears quickly, the patient ought to be hypnotized regularly for a month, and if he can be seen frequently for six months, so much the better. 8. The object of the treatment is not only to cure the craze, but to strengthen the will. The latter point is important. Some patients forget what they have gone through, and yield again to temptation. He commends Lady Somerset's institutions, where healthy work and religious influences play an important part, as contrasting with some others where these are lacking.

47. **Opium in Infancy.**—Crothers calls attention to the dangers of opium medication in infancy as leading to degeneration in adult life.

52. **Examination of the Sputum.**—The method of examination recommended here by Weidner is that of Guenther, which consists in spreading the sputum thinly on a cover-glass, drying it thoroughly in the air, and fixing it by passing it through a flame three times. Then the cover-glass is floated sputum side down in Ehrlich's solution of either anilin gentian violet or anilin fuchsin. It is then heated over a small flame until the staining fluid begins to boil, and set aside for a minute to prolong the action of the stain. The cover-glass is removed with forceps from the fluid, and without washing, it is placed in a solution composed of three parts of hydrochloric acid and ninety-seven parts absolute alcohol, where it is left for one minute, and rinsed well in distilled water. It should now appear free of all color to the naked eye. The final steps are counter-staining in a weak solution of methylene blue for several minutes, washing in distilled water and drying in the air; if it is to be permanent, passing it through flame. This is done for the purpose of getting rid of all acid which might have a decolorizing effect later on. It is then mounted in xylol balsam and examined with a 1/12 oil-immersion lens, using open condenser and maximum illumination. If the fuchsin is used, the bacteria will be seen as little red rods upon a blue ground, but not everything that stains red is tubercle. The tubercle bacilli are arranged singly or in little bunches, and frequently in a V-shaped arrangement, and are spread all over the cover-glass. They are slightly curved and often have a beaded appearance, which is so characteristic in active bacilli well prepared. The other methods, of Koch-Ehrlich, Ziehl-Neelsen, Gabbet, and others, are also mentioned though he does not employ them. A considerable part of the paper is taken up with a discussion of the distinction between the smegma and tubercle bacilli, and he seems to think the plan of prolonged immersing in alcohol is perhaps as reliable as any.

53.—See abstract in THE JOURNAL, xxxiv, p. 1415.

55. **Treatment of Abortion.**—The principles underlying the treatment of abortion and its complications are given by Stehman as follows: 1. The rendering of the vulva, vagina, and uterus aseptic, and so far as possible maintaining them so. 2. The arrest of hemorrhage, either by use of tampons in the cervix or vagina, or by directly emptying the uterus. 3. In inevitable abortion, the ovum, or any part of the product of conception, should be removed as early as possible. 4. Intelligent curettage is invariably indicated wherever a vestige of placental remains or any suspicion of infection is in evidence; a bacteriologic differentiation is necessary both from the standpoint of prognosis and treatment. 5. When circumscribed local infection is a complication, evacuate the pus as early as possible and by the shortest route.

56. **Chloretone.**—Ward has experimented on himself with a number of hypnotics and found chloretone the most convenient and freest from bad effects, and next to this, trional. He believes that chloretone is theoretically the best hypnotic, and thinks it useful in cases of excessive hyperacidity of nervous origin, and especially in those intractable cases of pain in the epigastrium, which comes on at night interrupting sleep and causes the sufferer to take large doses of bicarbonate of soda.

He attributes its effects to its anodyne action on the gastric mucous membrane. For similar reasons he thinks it would be an excellent remedy in acute alcoholism. He would give it in 10-gr. doses dissolved in half an ounce of whisky or brandy, followed later by a raw egg beaten in milk. He has also used it in one case of whooping cough, with marked benefit.

59.—See abstract in THE JOURNAL, xxxiv, p. 1336.

60. **Uric Acid and Epilepsy.**—Putnam and Pfaff have tested the correctness of Krainsky's statement as to the invariable diminution of the excretion of uric acid before epileptic attacks and its increase afterward, using specimens from patients in the Massachusetts State Hospital for Epileptics, at Monson. The method of analysis followed was that of Ludwig-Salkowski—the one now regarded as the best. In all twenty-nine specimens of twenty-four hours' urine were analyzed, coming from two patients, with notes as to the seizures that occurred during the time. They do not find any agreement in their results with Krainsky's statement; the amount was very low in some instances during seizures and high in others.

62.—See abstract in THE JOURNAL, xxxiv, 1336.

64. **Digitalis.**—From an experimental study of digitalis and its derivatives, Arnold and Wood conclude that digitalin and digitoxin each represent the full circulatory powers of digitalis. Digitalin and digitoxin stimulate the cardio-inhibitory mechanism both centrally and peripherally. In larger doses they paralyze the intrinsic cardio-inhibitory apparatus. They all cause a rise of blood-pressure by stimulating the heart and constricting the blood-vessels. 4. Very large doses paralyze the heart-muscle of the mammal, the organ stopping in diastole. Digitalin of Merck is a stable compound, one gram of it being equal to about 70 c.c. of tincture of digitalis. Digitoxin is not to be recommended for human medication, on account of its irritant action, which makes it liable to upset the stomach when given by the mouth, or to cause abscesses when given hypodermically, and on acount of its insolubility, which renders it slowly absorbed and irregularly eliminated, having a marked tendency to cumulative action.

66.—See abstract in THE JOURNAL, xxxiv, p. 1415.

67.—Ibid., p. 1416.

68.—Ibid., p. 1333.

69.—Ibid., p. 1334.

70.—Ibid., p. 1415.

71.—Ibid., p. 1334.

72.—Ibid.

73. **Ossification of Choroid.**—The case reported by Randolph is interesting from a medicolegal point of view. The man was drowned in Niagara River and his body was found nine months later. The insurance company demanded an examination, and identification of the body was determined by its showing ossification of the choroid in one eye that had been known to be blind.

75. **Vision and Seasickness.**—Sumner believes that seasickness is an ocular phenomenon, and in evidence of this presents the case of a house that was carried away by a flood and deposited in a very abnormal position. Though perfectly stationary, it made persons who entered it seasick. The disturbed relations affected the field of vision in such a way as to produce the reflex symptoms of *mal de mer*. He believes the disturbance is really a psychic one, caused by conflicting mental impressions which produce systemic disturbances.

76. **Tobacco Amblyopia.**—The subject of tobacco amblyopia is discussed by Polkinhorn, who does not agree with the statements made by most observers that the vision seldom if ever falls below 20/200. He thinks in one-half the cases he has seen the reduction was below this figure. Most of his cases were pipe smokers, and nearly all made use of a short, clay pipe, called a "nose scorcher" on account of its size, the stem being only about one and one-half or two inches in length. More nicotine is absorbed in using such a pipe than when using a pipe with a longer stem. In one case, the patient was a female who had every symptom of the disease, but did not smoke herself. She spent most of her time in the room with her husband, who was a paralytic and a constant smoker. Whether this was a true case of amblyopia, caused by inhalation of tobacco fumes when the bodily health was below par, he is not able to positively state. The part played by alcohol in this disease is, he thinks, over-estimated; tobacco is responsible, in his opinion. The prognosis where there is no actual scotoma or contraction of the visual field and the patient is willing to obey directions is, he thinks, good.

77.—This article has appeared alsewhere; see also THE JOURNAL of July 28, lxi, p. 258.

82. **Mountain Fever.**—Stuver believes that mountain fever is simply a form of typhoid, modified a little, perhaps, by the conditions of open air, etc. He uses rectal injections of cold normal salt solution as a substitute for the cold bath, and thinks them more available and equally valuable. The treatment in other respects is also described.

83. **Psychic Shock.**—The participation of this element in the production of various disorders, and especially its relation to surgical shock or complication is here emphasized by Roberts. He thinks the physicians should pay more attention to the mental condition of their patients, and the existence of excitable mental equilibrium should at times turn the scale against operation altogether. The use of suggestive therapeutics is advised in some of these cases.

84. **Altitude and Insanity.**—The effects of climate on mental diseases are, according to Solier, very much neglected by authors of works on diseases of the mind. The only exception he makes to this general rule is Dr. Kellogg's recent work. It, however, makes no allusion to the effect of altitude on insanity, excepting that the author recommends a low, rather than a high altitude when the cerebrospinal centers are damaged by the occurrence of organic lesions. The authors who have written especially on this subject in medical journals are Eskridge, of Denver; Solly, of Colorado Springs, and Work, of Pueblo. They do not find that high altitude is especially damaging to the neurasthenic in most cases. Solly analyzes the conditions at the Wyoming State Asylum at Evanston, and comes to the conclusion that altitude is not an appreciable factor in the production of insanity.

85.—See also abstract in THE JOURNAL, xxxiv, p. 233.

94. **Brain Tumors.**—Seventeen cases are here analyzed, and the leading symptoms in the order of their frequency are given by Diller, as follows: Headache, vomiting, optic neuritis, eye palsies, ataxia, mental symptoms, hemiplegia, general convulsions, altered knee-jerks, and vertigo. The author thinks the prognosis is always serious, and in only one of eight cases that were operated on of the seventeen, was there any relief. Surgical interference is not very hopeful, though it is not to be discarded absolutely. He believes in the medical treatment by the use of potassium iodid in large doses, 300 to 400 grains daily if possible, and where this fails, an operation may be undertaken. If localization of the tumor is impossible, or if it is inaccessible, perhaps simple trephining may do good.

104. **Cannabis Indica.**—This is one of the older drugs that has suffered somewhat from neglect, but, as Lewis thinks, undeservedly. In small doses it is first stimulating, later sedative. He describes the symptoms of cannabis intoxication, and believes that there is no fatal dose by the mouth in the human subject. He thinks there is a limit to the absorption of the drug when administered by the mouth, since he finds as much effect from 10 grs. as from a larger dose. As far as he knows there are no drugs that counteract its effects satisfactorily; hyoscin hydrobromate comes the nearest to it, and during the somnolent stage, when the respiration and heart become embarrassed, hypodermic injections of strychnin and nitroglycerin are effective, as is also a rectal enema of strong coffee and brandy—two ounces of each. The uses of the drug are manifold, but are almost exclusively limited to diseases due to nervous derangement. In migraine, hemicrania, neuralgias, and headache due to eye-strain, it may be used with marked success, and it is one of the best of anodynes in multiple neuritis. It is one of the most valuable and satisfactory drugs in the neuroses accompanying pregnancy, and dysmemorrhea is one of the principal indications for its use. It is unequaled

to quiet the neuroses, pregnancy and the menopause. It is a valuable adjunct to quinin, and he believes from his own observation that it has a powerful action on muscular contraction, particularly of the uterus, and combined with ergot is a valuable adjunct. It is useful in profuse menstruation, decreasing the flow without completely arresting it. He has not found it of much value as an aphrodisiac, though it may be somewhat effective in some cases of impotence. He has seen evident improvement in several cases of diabetes mellitus, and it is very useful in relieving intolerable itching and burning in all neuroses of the skin. The preparation he uses is assayed solid extract in doses of one-fourth of one grain. He uses one-fourth grain tablets, and repeats the dose every one, two, or three hours, as needed.

106. **Ergot.**—The uses of ergot are related by Jackson, who finds it valuable in fibroids, uterine hemorrhage, Bright's disease, diabetes, brain congestion, hemoptysis, and the hemorrhage of typhoid fever and dysentery.

108. **The Nuclear Structure of Bacterial Cells.**—In this article King reviews the literature of the nuclear structure in bacteria and concludes with the suggestion that two definite substances are to be recognized in the bacterial cell: a cytoplasmic substance and a nuclear substance; that the nuclear substance is simpler in form than in the less degenerated plant forms, but that it has a definite structure which is found in principle in all bacterial cells, and which plays an important part in cell division.

118. **Appendicitis.**—French objects to the use of purgatives in appendicitis, as he thinks they increase the peristaltic movement and contribute to the invasion of infection. Operative treatment is unnecessary only in chronic lesions in which the peritoneal layer is unaffected, and no adhesions exist. In such cases it is not justifiable. When abscess is present but the appendix is not readily accessible, there should be no attempt to find or remove it, as this will increase the danger. He lays down the following rules as to the time of operation: 1. In fulminating appendicitis, when the perforation is large, when invasion is rapid, symptoms are severe, and the blood-count shows signs of infection, operate early. 2. After recovery without operation from a general attack, operation is justifiable. 3. After suffering several mild attacks. 4. Operate after the third or fourth day in cases where the blood-count, pain, vomiting and high pulse-rate indicate the spread of the infection or an increase in its virulence. He thinks the process we call inflammation is conservative, and if we knew the dividing line between repair and destruction we could state the exact minute when operation is necessary.

120.—This article has appeared elsewhere. See THE JOURNAL of August 4, ¶75, p. 319.

126. **Digestive Enzymes vs. Bacteria.**—The practical point of Randall's paper is the inconstancy and instability of digestive enzymes as compared with the constancy and stability of living bacteria. He believes that we have in formaldehyde and isoethylin valuable food preservatives which have a wide sphere of usefulness.

130. **Rheumatism and Life Insurance.**—Looking at rheumatism from the insurance standpoint Young concludes that: If the disease has occurred in the ancestry and not in the applicant it need not be considered, for heredity can be traced in only about 30 per cent. of the cases, and it does not follow that it exists. If the applicant himself, however, has had an attack the case is different. As a rule, the earlier the primary attack occurs, the greater is the likelihood of repeated attacks, the greater the severity and danger of cardiac complications; the later the age the less the danger. Occupations calling for great muscular activity with fatigue, especially where the applicant is exposed to sudden chilling, produce more than one-half the cases. If he persists in such occupation, the risk is increased. Conditions of living which lower the tone of the nervous system, or serve to enfeeble the muscular system, increase the chances of recurrence. The same is true of diseases that lower the bodily resistance. A combination of two or more of these elements makes the case so much the worse. These influences upon the desirability of risk are to be considered independently of those arising from residual effects of rheumatism, which are far more important, but are not here considered.

132. **Female Risks in Life Insurance.**—The experience of the Union Central Life Insurance Company with female risks is given, showing a strikingly unfavorable percentage, although the later mortality has been more favorable than the earlier, partly on account of advance in the science of obstetrics, and a rule postponing pregnant cases and those recently married. Consumption and cancer, however, are still the most unfavorable factors in the increased death-rate. Davis thinks the cause of this may probably be found in the careless examination of women, who are rarely thoroughly examined by medical examiners. Many women do not know when they are in ill health, and thus mislead, though they do not intend to answer falsely. In males it is different. In most cases the man breaks down and when he is ill is very sick. He is not schooled in suffering like the woman.

134. **Submucous Ligature for Rectal Hemorrhoids and Prolapse.**—The operation described by Ricketts consists in passing a needle subcutaneously around the hemorrhoidal varices. Its advantages are stated as follows: 1. The impossibility of secondary hemorrhage. 2. There is no tissue destroyed or sacrificed. 3. The loss of time is but little, if any, greater than when they are removed by the clamp and cautery. 4. Thus far there has been no infection. 5. There has been no fistula, abscess, or fissure resulting therefrom. 6. The pain is no greater, and, perhaps, less, than in other methods of ligaturing. 7. There is absolutely no stenosis. The operation is described and illustrated. He passes the needle part way around, then inserts it at the point of exit to come out again at the original point of entrance. In cases of but one or two hemorrhoids one ligation of this character is sufficient, but when they are multiple, as many as are required may be used. The operation for prolapsed rectum is similar.

FOREIGN.

The Lancet, July 28.

Chronic Pancreatitis. A. W. MAYO ROBSON.—Pancreatitis is a result of bacterial infection, as has been proved both by clinical observation and experiments on animals. Mayo Robson considers it under three heads: 1, acute; 2, subacute, and 3, chronic, which should not interfere with the pathogenesis or classification of the acute form into hemorrhagic, suppurative and gangrenous. The symptoms are very variable and differ in special forms, with no pathognomonic signs, and in each a study of the history, onset, and symptoms is necessary. Acute pancreatitis usually begins with sudden pain in the superior abdominal region, with faintness or collapse, followed by vomiting and almost constantly accompanied by constipation, so that it is frequently mistaken for obstruction. The obstruction here, however, is not absolute. The pain is soon followed by distention in the superior abdominal region, which may become general. The pulse, which is rapid and small, is a better guide than the temperature, which may be sub-normal or normal. Delirium comes on later, and death usually supervenes in from two to five days from collapse. Subacute pancreatitis may also commence with acute pain. Tenderness over the pancreas is marked, and the swollen gland may sometimes be felt. Collapse is not so pronounced, pulse less rapid, constipation gives way to diarrhea, temperature may reach to 104 or 105 F., and yet be normal in the morning; rigors may occur. Loss of flesh and feebleness with albuminuria is pretty constant. The patient gradually succumbs. An abscess may become prominent by its tumor, and burst either in the bowel or stomach or point externally. Chronic pancreatitis, at first hypertrophic, but later cirrhotic, is usually considered rare, but he thinks it much more frequent than either of the other forms. He has operated on a large number of cases of jaundice, apparently depending upon obstruction to the common bile-duct, which led him to this belief. The onset may be gradual, the pain may be severe at times and resemble that of bilious colic, but the tender spot is usually an inch above the umbilicus in the middle line, and not over the gall-bladder, as in cholelithiasis. Jaundice tends to deepen with each attack, until it becomes continuous. Loss of flesh and strength are characteristic. Albuminuria is common, diarrhea is often

present. The symptoms of fever are variable, as is likewise the pulse. In the later stages, hemorrhage from the nose and bowel and vomiting of blood, show blood degeneration, and death ensues from increasing weakness. The diagnosis is to be made from gall-stones in the common duct, cancer of the pancreas, the liver and bile-ducts, and chronic catarrh of the bile-ducts. From gall-stones the diagnosis is of no great importance, since the conditions are often associated and the treatment is the same; still, it may be made by the history, as a rule. In cancer of the head of the pancreas the onset is usually gradual and painless, and the disease ordinarily occurs later in life, after the age of 40. It is preceded by general failure in health. Jaundice when it occurs is absolute and unvarying, and there is nearly always a tumor of the gall-bladder without tenderness. The liver is enlarged, and, in some cases, a hard nodular tumor may be found on the under side of the distended gall-bladder. Extremely rapid loss of weight and strength with increasing anemia, but without ague-like seizures, is very characteristic. It is common for this to be absent, with still feeble pulse and later ascites of the lower limbs. Cancer of the bile-duct is rare, and when present may resemble and is usually associated with gall-stones. With cancer of the liver, irregular enlargement, nodules following rapid loss of health, less constant jaundice and absence of fever usually point to its existence. In many cases the diagnosis can be made only by exploratory operation. The disease may last for months, or even years, and it is probable that many cases called chronic catarrh of the bile-duct may be of this character. Glycosuria, increasing weakness and hemorrhage make the outlook bad. Under surgical treatment the prognosis is very favorable, as sixteen out of his seventeen cases have recovered. In acute disease there is seldom much chance for treatment; the symptoms are too indefinite, and the course too rapid. The subacute form is more amenable to treatment, but has usually been attacked surgically only when an abscess has formed. There is no reason why surgery might not be done earlier. Morphin may be necessary for the pain. Calomel as an intestinal antiseptic, and bismuth and salol, and small doses of opium when diarrhea occurs, may be of benefit. The strength must be maintained by careful feeding and judicious use of stimulants. Evacuation of pus is requisite, and other collections must be looked out for. In the chronic form, surgery is indicated, and for attacking the head of the pancreas or pancreatic duct the vertical incision should be made through the right rectus, and not in the middle line. In all cases of deep jaundice he prescribes calcium chlorid in 20-gr. doses thrice daily for twenty-four and forty-eight hours before operation, and gives it in the form of an enema twenty-four hours afterward in 60-gr. doses three times a day. He says that if the papilla is incised it does not require suturing, and in cases where he has explored the ducts by the duodenal route there has been no hemorrhage. The anterior duodenal opening requires closing by mucous and serous sutures. This is best done by a stab-wound at the most dependent part. A number of cases are reported which illustrate the course of this disease under treatment. He remarks that the contrast between the results of malignant disease, of pancreatitis, and the ordinary interstitial chronic pancreatitis is most striking. This article appears to be practically the same as that presented by the author at the late International Medical Congress. (See cable report in THE JOURNAL, August 11, p. 375.)

British Medical Journal, July 28.

Physiologic Action of Senecio Jacobea. J. L. BUNCH.—The author has studied the physiologic action of Senecio jacobea, the investigation having been undertaken by the Therapeutic Committee of the British Medical Association. His article is illustrated by tracings showing the blood-pressure and the effect upon the heart. The following are his conclusions: 1. Injection of an alcoholic extract of the entire plant of Senecio jacobea into the circulation of a dog in small doses causes a rise of general blood-pressure, with constriction of peripheral vessels and of vessels of the intestinal area. This effect is accompanied by a diminution in the magnitude of the contractions both of the auricle and of the ventricle. 2. Large doses—.8 to 1 gram for a dog of 7 kilos—of the drug cause a fall of general blood-pressure, with dilatation of the intestinal vessels and inhibition of the contractions of the intestinal coat. 3. After several injections of small doses, or after one large dose of the alcoholic extract, further injections produce a fall of blood-pressure, with slowing of the heart, and this effect is repeated unless a considerable interval is allowed to elapse before any further injection of the drug, which then again causes some rise of general blood-pressure. 4. The entire plant, therefore, contains two substances with distinct physiologic actions, but he has not up to the present been successful in locating them. 5. Watery extracts of the residue obtained by evaporating the alcoholic solution produce a fall of blood-pressure and cardiac inhibition, due to the action of the drug on the nerve terminations in the heart, and not to direct action on the muscular fibers of that organ. 6. The substance which causes a rise of blood-pressure is not contained in such watery extracts, or if present, is only in small quantities.

Oral Sepsis as a Cause of Disease. WILLIAM HUNTER.—The writer, who has been rather prominent in tracing disease as a result of dental decay here takes up the subject again and claims that he finds for every case of gastric or other affection traceable to pyorrhea aveolaris there are a hundred equally well-marked associated with dental or oral conditions of sepsis. The important point is that they are all septic in their nature, and are produced by pus organisms. He thinks there are no such virulent necroses as those grown in connection with necrosing bone, and that is the character of those connected with carious teeth. No physician or surgeon, he says, would allow a patient with a foul septic ulcer on his forearm to apply his lips to the ulcer to clean it, yet this is pathologically what happens in patients with carious teeth or stomatitis. Moreover the swallowing is constant, and for years unheeded by the patient or physician. As instances of these conditions he reports the case of a woman who suffered from inexplicable salivation and subsequent intestinal trouble so severe in character as to confine her to the bed, and another who had gastritis and various rashes, besides nervous attacks It is probably impossible to prevent occasional access of typhoid, tubercle, and other infectious germs. They need not, however, keep us from taking the most exhaustive precautions for saving our house from typhoid contamination or preventing access of tubercle bacilli. Therefore, he maintains that the mouth, which is so accessible to local treatment, should not be made into a perfect hotbed for their development and propagation. By oral antisepsis he means, not merely washing the mouth with mild astringent and antiseptic mouth washes, but the direct application to the diseased tooth or inflamed gum of carbolic acid—1 in 20—daily as long as the patient will persist in keeping the fang, or, better, the removal of all diseased useless stumps, the most scrupulous boiling of every tooth-plate worn, and avoidance on the part of the dentist of too much complicated surgery, such as bridge work, which can not be kept aseptic.

Nature and Action of Snake Venom. ROBERT HENRY ELLIOTT.—The author has investigated the effects on the mongoose of the cobra venom and finds that much larger doses can be borne by this animal than would naturally be supposed. These animals in their normal, active, healthy existence could have borne more, he believes, than those that were the subject of his experiments, as these last had lost more or less of their immunity while in captivity. He notices the fact that the mongoose loses considerable of this immunity in Guadeloupe, where it is not exposed to the snake venom, as it is in its native residence. He finds, for instance, the proportion that would kill a rabbit, dog, and a mongoose, are, roughly, rabbit, 1; dog, 2, and mongoose about 10 to 25. He mentions amongst other things the fact that the bristly hair of the mongoose is protective, as the mongoose terrifies the snake by appearing larger than its real size, and by its agility to escape most of the attacks. He doubts if the mongoose alone is peculiar in this matter, for even dogs or cats have been known to be successful in killing poisonous snakes. Snakes differ in their characters; the cobra is an animal that is subject to hypnotism, a fact known and used by the Indian snake-charmers, who are by no means immune to its bite. If they seem to swallow the venom sometimes or rub it on their arms it has no especial effect and is not taken for any intelligent reason. The Rus-

sell viper—Daboia—is a different-tempered animal, and is never used by snake-charmers. It is not so safe to handle as the cobra. He sums up his conclusion in regard to snake-charmers in the following words: 1. The snakemen of South India are certainly ignorant of any method of producing in themselves a highly-developed condition of immunity. 2. Some few of them appear to practice the swallowing of venom, or the inunction of venom into their limbs, but it is doubtful if they do so with any well-defined object. It is possible that they thus obtain some degree of immunization. 3. They confine themselves almost exclusively to the cobra, and escape harm by their intimate knowledge of the methods of handling the snake.

Bulletin de l'Academie de Medecine (Paris), July 10 and 17.

Treatment of Aneurysms with Gelatin. LANCEREAUX.—In the patient first treated with injections of gelatin, the skin had commenced to yield to the pressure of an enormous and rapidly increasing aneurysm of the aorta, which had perforated the sternocostal wall. The injections of gelatin were made as a last resort. Improvement was evident within twenty-four hours, and in a short time the patient was restored to comparative health, able to climb stairs, and he even fell from an omnibus without disaster. Death occurred more than a year later, after an intercurrent attack of la grippe, and the autopsy confirmed the obliteration of the aneurysmal sac, and of a second smaller sac for which the patient had taken a second course of injections. Lancereaux adds reports of nine new cases, in all of which the patients were very much benefited by the injections. He restricts the treatment to sac aneurysms, affirming that it is useless in simple spindle-shaped enlargement of the artery. An indispensable condition for success is the slowing of the arterial current. Twenty-five injections at least are required in most cases. About 5 gm. of gelatin are dissolved in 200 c.c. of artificial serum, for one injection; it is repeated in a week, and, properly administered, there is neither general nor local reaction.

Diabetes from Tumor in Fourth Ventricle. MARINESCO.—The complete observation of a gliosarcoma in the floor of the fourth ventricle, reported in this communication, shows that a lesion at this point first affected the centers for the secretion of urine, inducing a polyuria amounting to eight or nine liters a day, without glycosuria, and later, when the lesion had invaded the centers which preside over the sugar formation, the diabetes was transformed from insipidus into mellitus. The case also establishes that the center of respiration is not at the calamus scriptorius, but lower down, coinciding with Marinesco's experimental research. The hemorrhages into the medulla produced each a bulbar ictus, but did not arrest respiration. Death did not occur until hemorrhage had invaded the aqueduct of Sylvius and third ventricle. The lesion encroached on the upper part of the nucleus of the hypoglossal nerve, the dorsal nucleus of the pneumogastric and the posterior longitudinal fasciculus.

Gazette Medicale Belge (Liege), July 26.

Physicians and Sickness Insurance Societies. CUYLITS.—This address was one of the features at the Congress of Professional Medicine. The speaker is one of the foremost leaders in the "Battle of the Clubs," which has been waged so bravely in Belgium. He stated that in 1895 there were 756 "mutualities" in that country—societies organized to insure against sickness, accident, infirmity, or old age. The number has progressively increased, until now there are over 3000 with a membership of considerably more than 350,000. Estimating five souls to a family, this makes 1,750,000 individuals, and adding the numerous other organizations which are not legally incorporated, and co-operative associations, it is no exaggeration to assert that 3,000,000, or very nearly half the population of Belgium, is entitled in some way or another to medical attendance at reduced rates, practically gratuitous. The principle of sickness insurance is permeating more and more every day all classes of society. He referred to our American lodges, etc., as an ideal in respect to their method of medical attendance; each disabled policy-holder receiving his indemnity each week, out of which he pays his own doctor's bills, selecting the physician he prefers. "Europe has much to learn from America in this respect." Meantime he proclaimed the principles which he hoped the Congress would unanimously endorse and promulgate: 1. Every true "mutuality" should be entitled to a minimum medical tariff, which would be incompatible with our professional dignity under any other circumstances. 2. The "mutuality" can have the benefit of these terms only on condition that it will not admit well-to-do persons to membership. 3. The tariff should be established by agreement between the "mutuality" and the professional medical association, and may differ and conform to the resources of the "mutuality" and the local conditions at various places. 4. All the local physicians should be notified of the tariff when adopted, leaving each one free to accept it or not. 5. The system of hiring a physician on a salary can not be tolerated, and the choice of the physician should be left to the patient. 6. A general medical superintendent should be one of the officers of the society. He should visit the patients occasionally to ascertain that the medical arrangements are working properly—in the interests of the patient as well as of the association; once a week is sufficient. Adoption of these principles would establish "lodge practice" on an equitable basis, with no further cause for wrangling.

Grece Medicale (Syra) July.

Epilepsy Cured by La Grippe. G. L. COVEOS.—A 10-year-old lad passed through an extremely severe attack of la grippe. When he recovered there were no further manifestations of the epilepsy, with which he had been affected since his third year. The seizures had recurred every second day and resulted in complete idiocy by the time he was 8. The attacks had always been confined to the face, but the symptoms were typical in other respects. After recovery from la grippe his intelligence returned, all trace of the epilepsy vanished, and in a year the boy had surpassed his brother in school. The epilepsy must have been symptomatic, not idiopathic.

Presse Medicale (Paris), July 18 and 21.

Unilocular Cysts in Pancreas. L. BÉRARD.—A large unilocular cyst containing two liters of fluid, in a woman 51 years of age, was differentiated as a tumor of the pancreas by its high location, and its synchronous displacement with the pulse of the abdominal aorta without true expansion of the fluid contents, which demonstrated its immediate contact with the arterial trunk. Another point was its comparatively easy mobilization laterally, while it was impossible to move it up or down or forward and back, suggesting a deep-seated stem. It was also independent of the liver, whose lower margin slipped back and forth on it and did not drag it down except in forced inspiration. The stomach was also independent, and during insufflation masked the area of dulness over the cyst. Bilton Pollard has recently reported three successful cases of this nature treated by incision and drainage, and this observation adds a fourth. Oser's statistics in 1898, of 140 cases of pancreatic cysts, demonstrated conclusively the benefits of this method of procedure. Recovery was complete in 80 per cent. within three months. Location between the stomach and liver—as in this case—is the least favorable for a radical operation, on account of adhesions, but median laparotomy should be the first step in all intervention on account of a pancreatic cyst.

July 21.

New Conception of Myelogenic Leukemia. H. DOMINICI.—The autopsies in two cases of myelogenic leukemia and much experimental research have demonstrated that the essence of the reactionary process induced by some unknown cause and known by this name, is a hypergenesis and generalization of the myeloid tissue. The manifestations are: 1, the multiplication of this tissue in the zones in which it exists naturally active, as the bone-marrow of the sternum, ribs and spine; 2, the revivifying of this same tissue at the points where it persists in a rudimentary or latent condition after having passed through a phase of activity at some period in the intrauterine or extrauterine life, i. e., in the spleen, liver, ganglia or diaphyses of the long bones; 3, the multiplication in the vessels of elements of the myelogenic series—issuing from these various foci—thus forming remote colonies. Myelogenic leukemia is not a disease of an organ, the bone-marrow, disseminating its elements throughout the rest of the organism by metastasis, colonizing at certain points as myelomata. On the contrary, it is essentially a disease of a tissue, the myeloid tissue in partic-

ular, which enters upon a phase of excessive activity in its normal locations and also at points where it persists latent or rudimentary. Among the facts on which this conception is founded are: 1, the possibility of inducing diffuse myeloid transformation of the spleen, experimentally and independently of any metastatic process; 2, the autochthonous origin of the newly-formed intrasplenic tissue; 3, the identity of the structure of this myeloid tissue in the spleen of the animals in the experiments and in the spleen of persons affected with myelogenic leukemia; 4, the modality of histogenesis, peculiar to myeloid tissue, which is manifested in the different organs, and which, although it may retrogress, is capable of resuming its activity at any time.

Semaine Medicale (Paris), July 10 and 25.

Raw Meat an Antitoxin. C. RICHET.—As already announced in THE JOURNAL, Richet claims that raw meat checks the development of experimental tuberculosis and cures it. The amount necessary and sufficient is 12 gm. per kilogram of body weight. The active principle of the meat in this respect is the muscle plasm. The effect of treatment can not be attributed to superalimentation, as experiments on tuberculized dogs have demonstrated that the raw meat acts as a medicine, not as a food. The effect is not due to its digestibility nor to the nitrogen it contains, as cooked meat is as digestible and as rich in nitrogen but has none of the specific antitoxic power of the raw. Raw meat acts by its enzymes, its ferments, its diastases, which possess the beneficent property of opposing the tuberculous infection. Tests on man have indicated the probability that raw meat in the treatment of human tuberculosis should be prescribed in large doses, 600 to 750 gm. at least, every day, or if the muscle plasm is used alone it should be from 1000 to 1500 gm. as the minimum. The use of raw meat should not be reserved for tuberculous patients with digestive troubles, but given to all, as it is a remedy—a heroic remedy—against the tuberculosis itself. Consequently it should be administered from the start. In short, raw meat, or to be more accurate raw muscle plasm, is not only a food, but it is also and chiefly, an antitoxic agent.

July 25.

Diagnosis of Renal Insufficiency. C. ACHARD.—This comprehensive and scholarly article was one of the addresses presented at the International Congress of Medicine. It states that the usual clinical and diagnostic data are better adapted to determine the existence and nature of the lesions in the kidneys than to establish disturbances in function. The anatomic lesion and the physiologic disturbance are, however, not always proportionate, and on the other hand, the functions of the kidneys may be seriously compromised while the symptoms are rudimentary and the general health maintains a deceptive appearance of normal conditions, while a more or less precarious compensation masks the real danger threatening the organism. Besides estimating the volume and specific gravity of the urine, the casts and albumin, it is necessary to determine the state of the function. This can be accomplished by comparing the urine and blood, with tests both chemical, physical—cryoscopy—and physiologic—toxicity—or by study of the elimination with a foreign substance. The latter and cryoscopy are the only two of these methods currently practicable. Comparison of the freezing-point of the blood and of the urine, combined with certain chemical reactions of the latter, furnishes very instructive information in respect to the condition of the renal circulation and the general nutritional processes, but the calculations required to make these deductions are possibly a little too complicated for daily practice. The test of function by induced elimination, which is generally done with methylene blue, is a simple and easy method of obtaining an oversight of the time required and the proportions in which the kidney succeeds in freeing the organism of the substances for which it serves as the emunctory. Cryoscopy and test-elimination can be advantageously combined, and together, form a means of pathogenic research which is liable to throw light on certain still obscure and theoretic points. It is also of great practical utility, confirming the indications derived from clinical examination at the bedside, and sometimes revealing hitherto unsuspected or erroneously diagnosed disturbances in the renal function, especially in certain cases of interstitial nephritis developing insidiously. Study of the glycosuria induced by phlorizin is useful to supplement the elimination test with methylene blue. Achard's method consists in a subcutaneous injection of 5 mg. of phlorizin. The glycosuria is "regular" when sugar appears during the first hour after this injection and disappears by the end of the third or fourth hour, the amount ranging from .5 to 2.5 gm. In pathologic conditions the glycosuria may be exaggerated in duration or quantity, but in most renal affections it is insufficient or entirely absent. This hypoglycosuria or anaglycosuria may be observed in connection with impermeability for methylene blue, in patients with interstitial nephritis, before any albuminuria appears. These phenomena may also occur transiently in the course of an acute infectious disease. In some cases the results of the two methods of exploration do not agree, as in an acute or subacute nephritis which allows free passage to the methylene blue with no evidence of glycosuria after the phlorizin test. The latter is manifestly a more complex phenomenon than the simple elimination of a coloring matter, but it is interesting to note that in certain unmistakable and profound lesions of the kidneys, while the elimination of the methylene blue and of other substances in the blood may be proceeding apparently normally, the injection of phlorizin affords a means of verifying that the functional activity of the renal elements is defective at least in certain directions. These facts suggest the possibility of still other functional disturbances, affecting unknown biologic activities of the renal parenchyma, which may possibly have a share in the pathogenesis of uremia.

Cocainization of Spinal Cord in Obstetrics.—The practicability of substituting intraspinal cocainization for general anesthesia in obstetric cases has been established by Doléris at Paris and Bumm at Basle, who each simultaneously report five or six cases in which it was done with the most satisfactory results. One to 2 cgm. of cocain were injected into the subarachnoid space, and in five to ten minutes there was complete analgesia of the lower part of the body to the costal arch, but no interference with voluntary movements. The uterus continued to contract with the same energy and frequency as before, but painlessly. The pain from pressure of the fetal head on the soft parts was also abolished, and the patients ceased to feel the desire to "bear down." Delivery and the later course of the puerperium was normal in every respect and the fetus did not show any indications that it had been affected by the cocain in any way. A laceration of the vagina occurred in one case, which was immediately sutured and no pain was felt by the patient. The analgesia lasted from an hour and a half to two hours. In Doléris' experience the uterine contractions seemed to become more frequent, more vigorous and to last longer than previous to the cocainization, and during the intervals the uterus remained in a state of semitension for a variable period. This latter fact suggests that this method of anesthesia is contraindicated in cases in which podalic version is liable to be required. The amount of blood lost seemed less than usual. Five of Bumm's patients were primiparæ.

Berliner Klinische Wochenschrift, June 16.

Phlorizin Test of Renal Function. L. CASPER.—The importance of this test of the function of the kidneys is evident from Achard's article above. The introduction of a small amount of phlorizin into the body stimulates the kidneys to a functional activity, the products of which—the glycosuria—can be quantitatively determined with ease. By catheterizing each kidney separately Casper has found that the post-phlorizin glycosuria in each organ can be studied alone. With sound kidneys the glycosuria is the same in each, and lasts during the same period, but a diseased kidney excretes much less sugar than its sister organ, or, in case of an extensive lesion, none at all. The glycosuria may vary in amount and duration in each kidney, with bilateral renal disease, or be absent in both organs. With rare exceptions, the elimination of sugar and of urea and the molecular concentration parallel each other. The writer considers the phlorizin test the best of these three methods of investigation and hails it as a distinct advance in the diagnosis of renal functional activity.

Centralbatt f. Chirurgie (Leipsic), July 21.

Sterilization of Hands with Varnish. J. LEVAL.—Two years ago the idea occurred to Levai that a varnish might

effectually protect the surgeon's hands and render them sterile. He has since been conducting extensive research in this line and believes that he has solved the problem of hand sterilization with a varnish which fulfils all the desired conditions; the most trying tests for a whole year have only confirmed its value. Two parts by weight of copal and four of Venetian turpentin are warmed with gentle heat and constantly stirred until thoroughly blended, while the water and volatile oil are expelled. When the mass is cold it is dissolved in 100 parts ether sulph.; 100 parts collodium simplex are then added, and later 8 parts of acetone, and the varnish is ready for use. It is removed from the hands in a few seconds with a cloth dipped in 2 parts ether and 1 of alcohol. Chirol and other varnishes have recently been recommended for this purpose, as mentioned in THE JOURNAL of July 7 and 28, but Levai states that they contain substances which his tests compelled him to reject on acount of certain properties. Chirol has been patented by the manufacturers, and Levai observes that he intends to maintain all his legal rights to his process.

Deutsche Medicinische Wochenschrift (Berlin), July 19.

Protection Against Hydrophobia. MARX.—It seems evident from the research reported in this article that the rabies virus becomes attenuated during its passage through small animals. Consequently in the Pasteur method of treating hydrophobia the rabies microbes are less resistant and are killed in the human organism before they can reach the central nervous system. As the microbes die they break up and the contents escape, inducing an irritation which stimulates the production of an antitoxin in the organism. Tests on monkeys have confirmed this attenuation of the virus, which had nevertheless lost none of its immunizing power. The harmlessness of the Pasteur injections is thus experimentally explained.

Improved Technique of Antiplague Vaccination. C. TERNI.—The essential feature of Terni's modification of Haffkine's method of antiplague vaccination is the use of a small amount of an extremely virulent culture of the plague bacillus —as described in THE JOURNAL, July 14, p. 125—with which guinea-pigs and rabbits are immunized. Among its advantages are the combination of a protective with the vaccinating substance, and the fact that active immunity is obtained with it in man in four to five days after inoculation with the lymph, while ten to twelve days are required with Haffkine's method. The immunity attained with a single vaccination lasts for two months, and it is not followed by high fever nor the painful local infiltration always noted with the Haffkine lymph. The entire process of obtaining the lymph and vaccinating requires much less time with a far smaller amount—1 to 2.5 c.c.—accomplishes the maximum effect.

Muenchener Medicinische Wochenschrift, July 17.

Early Diagnosis of Tabes. W. ERB.—Much of the present confusion in neurology would be avoided if tabes were more generally recognized in its incipient or latent stages. Erb describes several groups of cases differing widely from the classic picture, but all had been preceded by manifestations of secondary syphilis from four to twenty-three years before, and the later course of the disease confirmed its tabetic nature. In the first group the objective signs were very slight; the tendon reflexes were normal even after four to seven years' persistence of a few isolated tabetic symptoms such as lancinating pains, bladder and genital insufficiency, slight disturbances in sensibility, slight "Romberg," easy fatigue, and slight pupil sign. In another group of "rudimentary" tabes there were no subjective symptoms and nothing to call attention to the few slight objective ones which were easily discovered when sought. Another group was distinguished by gastrointestinal disturbances, not at all typical of tabes, and with only bilateral paresis of the sixth nerve and the pupil sign to indicate the nature of the affection. The "*formes frustes*" of tabes may never develop beyond the rudimentary stage, but they usually continue a progressive course. They indicate the necessity of investigating the knee-jerk and pupil reflex in every patient as a routine measure. Erb adds that tabetic symptoms need not cause uneasiness in the positive absence of syphilitis antecedents, but that with them the prognosis should be extremely reserved.

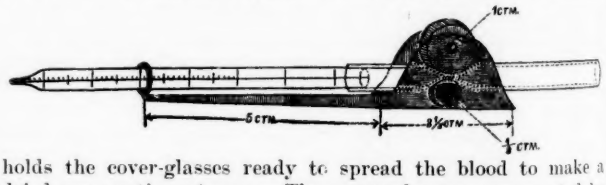
Diagnosis of Hernia of the Diaphragm. C. HIRSCH.—Symptoms of gastric disturbance and congenital dextrocardia had been noted for years in the patient whose case is described in this communication. He had frequently applied for relief from the oppression and sharp pains in the left side which appeared occasionally after eating. In his thirty-fifth year he was suddenly seized with violent pain in the left side, dyspnea, vertigo and vomiting, which gradually passed away after four days, but symptoms of pneumothorax persisted, varying in intensity at different times while the general health remained comparatively good. Auscultation and percussion revealed the existence of a large hollow space in the left thorax which insufflation and fluoroscopy showed was the stomach, projecting into the thorax through a rupture in the diaphragm. A similar coincidence of hernia and dextrocardia has been reported by others, suggesting the possibility that the primary factor is a congenital defect in the diaphragm, allowing the passage of part of the stomach or intestines into the thorax with consequent displacement of the heart. Gruber found an isolated displacement of the heart in only 7 out of 100 cases of *situs inversus*. In future the evidence of hernia of the diapharagm should be sought whenever an isolated displacement of the heart is noticed.

Alcohol Dressings. C. GRAESER.—The benefits of alcohol for treating phlegmonous and ulcerative processes are becoming better established every day. It acts by assembling new troops of phagocytes to repel invaders, and is especially serviceable in country practice where aseptic conditions are unattainable. The intelligent lay public can also be instructed to use alcohol compresses while awaiting the arrival of the physician.

Secret of Alcohol Disinfection of the Skin. E. BRAATZ.—The contradictory facts observed in regard to the efficacy of alcohol as a preliminary measure to disinfection of the hands with sublimate are explained by the results of recent tests. They demonstrated that the pores of the skin are filled with air, and that this prevents the entrance of the disinfecting fluids. Alcohol expels this air from the pores and thus enables the disinfectant to penetrate to their depths.

Vratch (St. Petersburg), July 1.

Enumeration of White Corpuscles. M. G. KURLOFF.—The accompanying cut shows the principle of the pipette used to draw and measure the blood. It does away with mouth suction and ensures much greater accuracy in measuring under the eye. The compressible rubber cap on the end of the pipette runs between two wheels, which produce a vacuum and aspirate the blood to a given mark as they turn in one direction and expel the exact amount required when reversed. An assistant



holds the cover-glasses ready to spread the blood to make a dried preparation at once. The corpuscles are enumerated by means of a movable cover-glass ruled into square millimeters, each set of five marked off with a heavier line, through which the dried specimen is examined under the microscope. The entire process is much simpler than the use of the Thoma-Zeiss instrument, while tests show that the results are practically identical, with the advantages that the enumeration can be done at leisure and the results controlled at any time.

Queries and Minor Notes.

MEDICAL JOURNALS?

UNION MILLS, IND., Aug. 6, 1900.

To the Editor:—Please advise me where I can obtain a reliable journal on diseases of the nose and throat, and oblige. C. V. L.

ANS.—*The Annals of Otology, Rhinology and Laryngology* is a journal specially devoted to these subjects. It is published at 302 N. Third St., St. Louis, Mo. *The Laryngoscope*, also published at St. Louis, 3702 Olive St., is another journal devoted to the same specialty. Both of these can be recommended. There is also a journal published in Baltimore, the *Journal of Eye, Ear and Throat Diseases*, which is small and costs only $1.00 a year, and can also be recommended if it is large enough. For ear dis-

eases alone Knapp's *Archives of Otology* stands easily in the first rank.

BUBONIC PLAGUE.

To the Editor:—Where did I read an article describing care of the bubonic plague at Oporto, Lisbon? S. R. T.

ANS.—There was an article, a study of the plague at Oporto, published in the *Annals of the Pasteur Institute*, July 25, 1899. We do not recall any special elaborate article, recently published, in English on this subject alone.

The Public Service.

Navy Changes.

Changes in the medical corps of the Navy for the week ending August 4, 1900:

Medical Director G. W. Woods, detached from the naval hospital, New York, August 18, and ordered home and to wait orders.

Medical Director H. J. Babin, ordered to duty in charge of the naval hospital, New York, August 18.

P. A. Surgeon L. L. Von Wedekind, detached from the *Indiana*, and ordered to the naval hospital, Chelsea, Mass., for treatment.

Asst.-Surgeon M. K. Elmer, ordered to the Boston navy yard.

Pharmacist F. T. Gordon, warranted pharmacist from July 25, 1900.

P. A. Surgeon T. W. Richards, detached from the *Machias*, when put out of commission, and ordered to the *Indiana*.

Asst.-Surgeon C. H. Delancy, ordered to additional duty at the naval hospital, Newport, R. I.

Asst.-Surgeon A. Stuart, detached from the *Yankton* and ordered to temporary duty on the tug *Fortune* at the New York navy yard.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 4, 1900:

SMALLPOX—UNITED STATES.

Alaska: Cape Nome, July 1, 17 cases.

Kansas: Wichita, July 21-28, 4 cases.

Louisiana: New Orleans, July 21-28, 7 cases, 4 deaths.

Massachusetts: Lowell, July 21-28, 4 cases.

Michigan: Au Sable township, July 14-21, 1 case; Durano, July 14-21, 2 cases; Grand Rapids, July 14-21, 2 cases; Hersey, July 14-21, 1 case; Waker township, July 14-21, 1 case; Springwells township, July 14-21, 8 cases.

New Hampshire: Manchester, July 21-28, 3 cases.

Ohio: Cincinnati, July 20-27, 1 case; Cleveland, July 21-28, 18 cases.

Utah: Salt Lake City, July 21-28, 3 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, June 30-July 14, 8 cases.

Belgium: Antwerp, June 30-July 7, 1 case; Brussels, June 30-July 7, 1 death.

England: Liverpool, July 7-14, 1 case, 1 death; London, July 7-14, 17 cases.

France: Lyons, June 30-July 7, 4 deaths; Paris, July 7-14, 3 deaths.

Germany: Frankfort-on-the-Main, June 23-30, 1 death; Königsberg, June 30-July 7, 1 case, 1 death.

Gibraltar: June 30-July 7, 1 case, 1 death.

Greece: Athens, July 7-14, 1 case 4 deaths.

India: Bombay, June 26-July 3, 3 deaths; Calcutta, June 23-20, 27 deaths; Karachi, June 24-July 1, 3 cases, 2 deaths.

Mexico: Vera Cruz, July 14-21, 5 deaths.

Philippines: Manila, June 8-16, 1 case.

Russia: Moscow, June 23-July 7, 12 cases, 7 deaths; Odessa, June 30-July 7, 5 cases, 1 death; St. Petersburg, June 30-July 14, 76 cases, 25 deaths.

Scotland: Glasgow, July 13-20, 52 cases, 1 death.

Spain: Madrid, June 2-23, 43 deaths.

Straits Settlements: Singapore, June, 2-8, 2 deaths.

Switzerland: Geneva, June 23-30, 2 cases.

YELLOW FEVER—UNITED STATES.

Florida: Hillsboro County, August 2, 2 cases.

YELLOW FEVER—FOREIGN.

Colombia: Barranquilla, July 1-14, 5 deaths; Bocas del Toro, July 26-31, 4 cases, 1 death.

Costa Rica: Port Limon, July 19, 1 case suspicious.

Cuba: Cienfuegos, July 17, 1 case on transport *Sedgewick*; Havana, July 16-23, 9 deaths; Matanzas, July 26, 1 death in barracks; Santa Clara, July 21, 2 cases.

Mexico: Vera Cruz, July 14-21, 7 deaths.

Salvador: San Salvador, June 27, present.

Venezuela: Cartegena, June 1-30, 16 cases.

CHOLERA.

China: Hongkong, June 16-23, 1 case, 1 death.

India: Bombay, June 24-July 3, 109 deaths; Calcutta, June 23-30, 55 deaths; Madras, June 23-29, 1 death.

PLAGUE.

England: London, August 3, 4 cases, 2 deaths on P. & O. S. S. *Rome*.

India: Bombay, June 26-July 3, 49 deaths; Calcutta, June 23-30, 2 cases, 79 deaths; Karachi, June 24-July 1, 2 cases, 1 death.

Philippines: Manila, June 8-16, 6 cases, 3 deaths.

Turkey: Beirut, July 2, present.

New Patents.

Patents of July 17, 24 and 31, of interest to doctors:

653,989. Disinfecting block. Samuel Eden, New York City.

653,998. Cornshield. Charles B. Hatfield, New York City.

653,866. Pocket atomizer. Solomon Heiman, Little Falls, N. Y.

653,687. Pill-making machine. Walter Middleditch, Detroit, Mich.

653,708. Hydro-electrotherapeutic apparatus. Johann J. Stanger, Ulm, Germany.

32,945. Design, Nerve-broach. Mathew M. Kerr, Detroit, Mich.

654,564. Surgical dressing packer. Gustav E. Dargatz, Kansas City, Mo.

654,165. Invalid's bed. Henri Leleux, Paris, France.

654,286. Ankle brace. Wm. A. Sears, Mechanicsville, Iowa.

654,185. Method of therapeutical treatment of parts of the human body and apparatus therefor. Austin V. M. Sprague, New York City.

654,581. Device for removing corns. Bernhard Wagner, Rahway, N. J.

32,989. Design, Bedpan. Mary F. Devennie, Philadelphia.

654,946. Apparatus for volatizing disinfectants. Vincenzo Cervello, Palmero, Italy.

655,060. Making non-coagulable albuminoids. Alexander Classen, Aix-la-Chapelle, Germany.

654,606. Sanitary retort. Byron Coburn, LeRoy, N. Y.

655,070. Disinfecting apparatus. Wm. H. Francis, Philadelphia.

654,832. Surgical operating table. George W. Hathaway, Lapeer, Mich.

654,906. Apparatus for examining condition of the lungs and heart. Daniel B. Marsh, Blackheath, Canada.

654,907. Pill-making machine. Walter Middleditch, Detroit, Mich.

655,008. Umbilical truss. Howard C. Rash, Salina, Kan.

654,763. Curette. James V. Russell, Chicago.

654,856. Combined support and catamenial sack. Martha E. Steele, Cowden, Ill.

Change of Address.

Dr. A. L. Anderson, from Kansas City to Oak Grove, Mo.

Dr. J. C. Ash, from Good Hope to La Harpe, Ill.

Dr. J. P. Atkinson, from 236 Richardson St. to 231 Marietta St., Atlanta, Ga.

Dr. S. G. Burkholder, from Chicago, Ill., to Denver, Pa.

Dr. G. F. Bell, from Williamsport to Newberry, Pa.

Dr. G. Betton Massey, from 1636 Walnut St. to 1831 Chestnut St., Philadelphia, Pa.

Dr. W. E. Brown, from Taylorsville, Ill., to Coolville, Ohio.

Dr. F. Blankner, from 4048 California St., St. Louis, Mo., to Polter Bldg., Grand Rapids, Mich.

Dr. S. C. Beach, from Ravenna, Neb., to Beacon, Mich.

Dr. B. Bettman, from 2522 Michigan Ave., to 2601 Kenmore Ave., Chicago, Ill.

Dr. J. B. Boucher, from 92 Main St. to 25 Charter Oak Ave., Hartford, Conn.

Dr. E. N. Brady, from 323 Western Ave., to Mary Thompson Hospital, Chicago, Ill.

Dr. C. P. Brightwell, from City Hospital to 1272 Broad St., Augusta, Ga.

Dr. A. M. Braunwarth, from 3199 to 3119 South Park Ave., Chicago, Ill.

Dr. A. Breathwit, from Kingsland to Ogamaw, Ark.

Dr. J. F. Carraway, from Rome to Church, S. C.

Dr. W. S. Caldwell, from Paris, France, to Union Bank of London, Eng.

Dr. B. L. Cleary, from 39 Laflin St., Chicago, Ill., to Sun Prairie, Wis.

Dr. C. A. Cantrell, from Valdasta to Nesbitt, Texas.

Dr. T. Coleman, from Philadelphia, Pa., to Freedmen's Hospital, Washington, D. C.

Dr. T. J. Caldwell, from 11412 Michigan Ave. to 5103 State St., Chicago, Ill.

Dr. J. R. Coleman, from Murray to P. O. Box 65, Paducah, Ky.

Dr. D. Cornelius, from 525 S. Robey St. to 284 S. Halsted St., Chicago, Ill.

Dr. Alfred P. Cole, from 37 Paint St., Chillicothe, to Ironton, Ohio.

Dr. R. E. Dvorak, from 540 W. 12th St. to 192 W. Division St., Chicago.

Dr. J. C. Dunn, from 3700 Wallace St. to 759 W. 47th St., Chicago.

Dr. D. W. Detwiler, from 1800 Wabash Ave. to 2400 Dearborn St., Chicago.

Dr. B. B. Davis, from 1610 Douglas St. to 200 Bee Bldg., Omaha, Neb.

Dr. W. L. Davis, from 433 Everett St. to 534 Minnesota Ave., Kansas City, Kan.

Dr. J. G. Eckstein, from 1135 Dayton, St., Cincinnati, Ohio, to Colorado Springs, Col.

Dr. A. Friedlander, from 22 W. 7th St. to 643 Forest Ave., Cincinnati, Ohio.

Dr. A. B. Giles, from 1340 Aisquith St. to Forest Ave., N. Walbrook, Baltimore, Md.

Dr. W. H. Grayson, from Madison, Ill., to 1357 Lucretia Ave., St. Louis, Mo.

Dr. G. J. P. Gish, from Mendon to Wheeling, Mo.

Dr. C. B. Hopkins, from 732 Jackson St. to 669 Adams St., Chicago.
Dr. J. W. Hewittson, from 61 Park Ave., Chicago, to Valley City, N. D.
Dr. E. R. Hawley, from The Loraine to 3746 Ellis Ave., Chicago.
Dr. G. I. Honaker, from Panther, to Duhring, W. Va.
Dr. J. G. Johnson, from Lowryville, to Chester, S. C.
Dr. F. G. Johnson, from Paoli to Sparta, Wis.
Dr. H. C. Johnson, from Fond du Lac to Manawaw, Wis.
Dr. L. D. Kaslenbine, from 923 3rd Ave., to St. James Court, Louisville, Ky.
Dr. C. S. Layton, from Detroit to Raber, Mich.
Dr. L. F. Love, from 826 12th St. to 1225 Walnut St. Philadelphia, Pa.
Dr. A. B. Lindquist, from Omaha, Neb., to 104 Lexington Ave., New York, N. Y.
Dr. R. H. Lee, from 2201 Brooklyn Aye. to Cor. Indiana and Anderson Ave., Kansas City, Mo.
Dr. E. A. Lawbaugh, from 2754 N. Hermitage Ave. to 237 LaSalle Ave., Chicago.
Dr. W. A. MacFarlane, from 962 Taylor St. to 573 Oakley Ave., Chicago.
R. J. Muenzner, from West Bend to Wabeno, Wis.
Dr. G. H. McClure, from 160 N. Avers St., Chicago, to Westboro, Wis.
Dr. E. E. Musson, from 258 S. 16th St. to 2136 Fitzwater St., Philadelphia, Pa.
Dr. S. Mener, from Denver, Col., to 124 W. 114th St. New York City.
Dr. J. G. Martin, from Hammond, La., to Brookhaven, Miss.
Dr. H. G. Morris, from Tangipahoa to Liverpool, La.
Dr. L. Morrison, from 718 Walnut St. Louisville, to Lebanon Jct., Ky.
Dr. T. T. Naae, from Fallow to Fostoria, Iowa.
Dr. R. A. McDonnell, from 312 Elm St., to 1142 Chapel St., New Haven, Conn.
Dr. R. H. Michels, 1007 W. Harrison St., to 1381 N. Clark St., Chicago.
Dr. J. H. Martindall, from 601 Figariou St. to Bellevue Terrace, Los Angeles, Cal.
Dr. C. B. Nancrede from 4 Cornwall Pl. to 720 S. University Ave., Ann Arbor, Mich.
Dr. R. L. McNeer, from 1401 W. Lafayette St. to U. S. Marine Hospital, Baltimore, Md.
Dr. J. C. Pfoff, from Slatington to 919 N. 29th St., Philadelphia, Pa.
Dr. F. A. Packard, from 110 S. 18th St. to 258 S. 18th St., Philadelphia, Pa.
Dr. T. B. Perry, from U. S. Marine Hospital, Mobile, Ala., to U. S. Marine Hospital, Wilmington, N. C.
Dr. W. A. Pursey, from 383 Superior St. to 512 Greenwood Boul., Chicago.
Dr. W. E. Potter, from 43½ Seeley Ave. to 785 W. Madison St., Chicago.
Dr. J. M. Phalen, from 951 Harrison St. to Cook County Hospital, Chicago.
Dr. A. Peacock, from 252 E. 55th St. to 348 E. 55th St., Chicago.
Dr. D. H. Pelletier, from Fowler, Ind., to St. Anne, Ill.
Dr. R. L. Pierce, from Whetstone to 220 E. State St., Columbus, Ohio.
Dr. B. W. Rogers, from Lake Geneva, to Milton Junction, Wis.
Dr. J. H. Robnett, from Salem to Union, Ore.
Dr. J. M. Rogers, from 53 Merritts St., Atlanta, Ga., to 448 New St., Macon, Ga.
Dr. T. S. Rosengrant, from Batesville to Barnesville, Ohio.
Dr. H. N. Rucker, from 668 W. 14th St. to 521 12th St., Oakland, Cal.
Dr. A. A. Shelley, from Goodland, to Abilene, Kan.
Dr. J. S. Shrader, from Delano, Minn., to Appleton, Wis.
Dr. W. J. Stewart, from Library, to McKee's Rocks General Hospital, McKee's Rocks, Pa.
Dr. W. K. Sutherlin, from Mansfield to Scott Bldg., Shreveport, La.
Dr. J. E. Smith, from Flower Creek, Mich., to Deep River, Iowa.
Dr. A. N. Sloan, from Franklin, Neb., to Samaritan Hospital, Sioux City, Iowa.
Dr. L. W. Shannon, from Chicago to Granada, Kan.
Dr. D. K. Smith, from 1400 12th Ave., to 1231 12th Ave., Altoona, Pa.
Dr. A. Shulman, from 27 E. 95th St., New York, to Arverne, N. Y.
Dr. Jokichi Takamine, from 90 Maiden Lane, to 475 W. Central Park St., New York City.
Dr. T. R. Thomas, from Stillwater, Minn., to Gomer, Ohio.
Dr. A. D. Taylor, from Williamsville to 320½ S. 5th St., Springfield, Ill.
Dr. L. C. Vincent, from 72 W. 48th St. to 101 W. 52nd St., New York City.
Dr. Wm. S. Wilcox, from Weyamvega to Park Falls, Wis.
Dr. E. E. Walker, from 22 E. Sabb St., Petersburg, to Forksville P. O., Mecklenburg County, Va.
Dr. H. M. Williams, from Emporia, Kan., to Oklahoma City, O. T.
Dr. E. W. Woodford, from 373 Jennings Ave. to 737 Detroit St., Cleveland, Ohio.
Dr. R. Williams, from Carthage, Ill., to Alden, Minn.
Dr. J. R. Winslow, from 924 Culloh St. to 114 W. Franklin St., Baltimore, Md.

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